Course Enrollment

Several criteria are used to justify the need for the many fields of study offered in occupational-technical programs throughout VCCS. Manpower and high school surveys and industry and community need assessments are the most common measures reported to determine development and continuation of programs. One important measure of both the accuracy of need assessments and the viability of subject offerings is student enrollment. If enrollment is consistently low, either need has been inaccurately forcasted or the region is unable to support the program offering.

JLARC has analyzed enrollment trends in each of the six major degree curricula. The following section summarizes information by curricular area including: the proportion of students in a specific subject major compared to total enrollment in the curriculum; detailed data by school regarding subject fields offered at more than one college; and, additional commentary regarding subjects offered at only one school, supporting certificate and diploma programs and selected field characteristics.

AGRICULTURAL AND NATURAL RESOURCES TECHNOLOGY

Agriculture has the lowest enrollment of all six curricular areas. Of the 261 students (full and part-time), three-quarters major in three subjects (Business, Forestry, Animal Science), the remaining 66 students are distributed among seven other degree, certificate or diploma programs. Although Agricultural Business has nearly a quarter of all agricultural students, it is offered at nine different schools and has consistently enrolled few majors.

Schools	Major	Percent Curricular Enrollment (0 5 10 15 20 25 30 35 ~ 90 100 %)
9	Business	(23.0)
1	Forestry	(23.4)
1	Animal Science	(33.0)
1	Natural Resources Mgmt. & Security	(11.9)
1	Horticulture	(0)
1	Agronomy	(4.6)
1	Livestock	(3.0)
1	Recreation Grounds Mgmt.	(.7)
1	Wildlife	(.4)

Agricultural subjects offered at just one school do not fare much better. Northern Virginia reported one major in Horticulture in 1972, did not offer it in 1973, but reinstituted the subject field in 1974 even though there were no majors. Livestock and Recreation Grounds Management (both degree programs) at Paul D. Camp and Patrick Henry respectively totaled one major in three years combined. Even new subject fields are started without substantial enrollment; Dabney S. Lancaster

offered Wildlife Management for the first time in 1974 with just one student major.

AGRICULTURAL BUSINESS
(Subject Area Majors)

School	1972	1973	1974
Blue Ridge	12	17	13
Eastern Shore	--	a	a
Germanna	6	9	3
Lord Fairfax	6	1	1
Paul D. Camp	--	3	7
Piedmont Virginia	--	a	a
Southside Virginia	11	11	15
Southwest Virginia	--	0	0
Wytheville	16	19	21

[a]Approved but not offered.

Source: *Student Enrollment Booklets*, 1972-74, Department of Community Colleges, Division of Research and Planning.

Despite these sytem-wide enrollment trends in agricultural subjects, both Northern Virginia and J. Sargeant Reynolds have or plan to establish agricultural branch campuses. The Loudoun Campus of Northern Virginia specializes in agricultural subjects and the projected Goochland County campus of J. Sargeant Reynolds is being planned with a major emphasis in agricultural subjects.

ARTS AND DESIGN TECHNOLOGY

All arts subject areas have a substantial number of student majors. In 1974, enrollment at the four schools that offered Commercial Art ranged from 53 students at Central Virginia to 329 students at Northern Virginia.

Schools	Major	Percent Curricular Enrollment (0 5 10 15 20 ~ 80 85 90 95 100 %)
4	Commercial Art	(83.1)
1	Media Advertising	(7.6)
1	Crafts	(3.9)

Diploma Offerings (1)

Crafts and Media Advertising enrolled 16 and 31 majors respectively. One diploma course (Printing) is held at Danville and has 22 majors. The distribution of subject majors in Commercial Art is shown in the following table.

COMMERCIAL ART
(Subject Area Majors)

School	1972	1973	1974
Central Virginia	30	32	53
Northern Virginia	106	120	129
Thomas Nelson	56	72	71
Virginia Western	82	71	79
Tidewater	18	16[a]	8[a]

[a]Reported but not approved - see end notes.

Source: *Student Enrollment Booklets*, 1972-74, Department of Community Colleges Division of Research and Planning.

BUSINESS TECHNOLOGY

Business Technology is the most popular curriculum in the community college system. Eight out of ten Business students major in three programs--Management, Secretarial Science and Accounting.

Schools	Major	Percent Curricular Enrollment (0 5 10 15 20 25 30 35 40—100 %)
23	Management	(36.2)
22	Secretarial Science	(29.2)
17	Accounting	(13.9)
8	Data Processing	(10.9)
12	Merchandising	(3.8)
2	Hotel Management	(2.3)
1	Aviation	(.1)
4	Real Estate	(.9)
3	Insurance	(.1)
1	Traffic and Transportation	(.6)
7	Banking	(.4)

Certificate Offerings (20)

Merchandising has not attracted many students and five schools where it is offered enroll ten or less majors. All four certificate offerings at Tidewater, Blue Ridge, Lord Fairfax and Southside Virginia that might support a Merchandising degree, have less than two enrollees. Banking and Insurance, where offered, have minimal enrollment and there are no certificate or diploma programs offered that support these two subjects. Business Technology programs that have low enrollment are shown in Table 17. Detailed enrollment for three years for the other four subject majors are contained in Appendix III.

It should be noted that Banking was not approved by the Council of Higher Education during 1973, yet six schools listed the program as offered. According to the curriculum planning division, actual enrollment in this field was reported in approved programs until 1974 when the program was given council approval.

Table 17

BUSINESS TECHNOLOGY
(Subject Area Majors For Selected Programs)

School	MERCHANDISING			BANKING			REAL ESTATE			INSURANCE			HOTEL		
	1972	73	74	1972	73	74	1972	73	74	1972	73	74	1972	73	74
Blue Ridge	18	22	14												
Central Virginia	21	19	39		a	11									
Danville	17	26	20	21	a	11									
Germanna	7	11	8												
J. Sargeant Reynolds		10	10		a	5									
John Tyler					a	2									
Lord Fairfax	12	13	10						a			a			
New River					a	2									
Northern Virginia	59	76	94				27	30	33			3	98	110	121
Piedmont Virginia	5	9	5												
Southside Virginia	9	6	3												
Thomas Nelson			16		a	a									
Tidewater	18	24	28				14	15	33	3	3	6	20	32	22
Virginia Western		5	17		0	0			0						

[a]Approved, but not offered.

[0]Approved, offered--no enrollment.

Source: *Student Enrollment Booklets,* 1972-74, Department of Community Colleges, Division of Research and Planning.

ENGINEERING AND INDUSTRIAL TECHNOLOGY

Engineering and Industrial Technology is the second largest curriculum in terms of enrollment but has the most subject fields. There are 57 degree, certificate and diploma offerings and more than half are offered by at least two schools.

Schools	Major	Percent Curricular Enrollment
		0 5 10 15 20 25 30 35 ~ 90 100 %
20	Elect/Elect	(34.2)
17	Draft & Design	(16.4)
10	Automotive	(8.0)
10	Mechanical	(6.1)
1	Air & Ref.	(5.2)
1	Machine Tech.	(5.6)
4	Architecture	(4.8)
6	Civil Tech	(3.8)
3	Construction	(2.7)
6	Industrial	(1.9)
1	Mining	(7.2)
1	Broadcast	(1.0)
2	Marine Science	(.8)
1	Instrumentation	(.5)
5	Electro/Mech.	(.4)
2	Envir. Sci	(.4)
1	Sci. Tech.	(.4)
1	Chemical	(.1)
1	Furn. Prod.	(0)
1	Tex. Manf.	(0)
1	Nuclear	(.5)

Certificate and Diploma Offerings (37)

Half of all engineering students major in two subjects--Electrical/Electronics or Drafting. In Automotive, Mechanical, Architecture, Civil, Marine Science and Instrumentation Technologies, enrollments are usually adequate to justify offering. However, there are too many exceptions to generalize. For example:

- Eastern Shore, Germanna and Piedmont Virginia have 10 or less majors in Automotive and no certificate support enrollment.
- Blue Ridge, Paul D. Camp, and Tidewater have 10 or less majors in Mechanical Technology and no certificate programs.
- Blue Ridge and J. Sargeant Reynolds each enrolled one student in Architecture during 1973 although the curriculum was not approved by the Council of Higher Education.

Generalizations can be made about degree programs in Industrial, Construction, Electromechanical, Chemical and Science Technology as well as

Furniture Production and Textile Management. There have been very few majors in any of these degree programs during the last three years.

Air conditioning and Refrigeration has substantial enrollment in certificate programs at five schools. But one school, Tidewater, reports ten degree majors even though the degree program is not authorized. Tidewater also reports enrollment in Industrial Technology which is not an approved curriculum (see end note 19).

Engineering and Industrial programs that have low enrollment are shown in Table 18. Detailed enrollment for three years for the other four subject majors are contained in Appendix III.

Table 18

ENGINEERING AND INDUSTRIAL TECHNOLOGY
(Subject Area Majors for Selected Programs)

School	ARCHITECTURE 1972	73	74	CIVIL TECH 1972	73	74	CONSTRUCTION 1972	73	74	INDUSTRIAL 1972	73	74
Blue Ridge		1[a]								6	5	4
Central Virginia					0							
Dabney S. Lancaster										5	5	5
Germanna							8	3	0			
J. Sargeant Reynolds		1[a]		41	52	41						
John Tyler	26	19	24							15	13	12
Lord Fairfax											b	b
Mountain Empire								b	b			
New River											4	6
Northern Virginia	54	56	76	26	39	47			2			
Southwest Virginia					0	0						
Thomas Nelson	19	21	30									
Tidewater										3	2[a]	1[a]
Virginia Western	34	34	41	33	33	52						
Wytheville				15	14	16						

[a]Enrolled, but not approved by council.

[b]Approved, not offered.

[0]Approved, offered--no enrollment.

Source: *Student Enrollment Booklets*, 1972-74, Department of Community Colleges, Division of Research and Planning.

HEALTH TECHNOLOGY

Two-thirds of all Health Technology students major in one degree and two certificate fields in Nursing. The other eight degree programs, nevertheless, have adequate enrollment where offered.

Schools	Major	Percent Curricular Enrollment (0 5 10 15–60 65 70 80 90 100 %)
14	Nursing	(62.9)
3	Mental Health	(9.8)
2	Radiology	(4.7)
2	Dental Lab.	(3.3)
4	Medical Lab.	(4.9)
3	Medical Records	(2.1)
1	Mortuary Science	(3.1)
2	Resipratory Therapy	(5.5)
1	Physical Therapy	(1.3)

Certificates and Diploma Offerings (7)

Three schools, Paul D. Camp (Nursing), Southwest (Mental Health), and J. Sargeant Reynolds (Radiology) report enrollment in programs that are not listed as approved by the council. (see end note 20)

Enrollment statistics for all health fields are contained in Appendix III. It should be noted that many health professional and paraprofessional fields are new and seem to attract many students where offered. Several of these fields are also closely regulated by State licensing authorities outside the VCCS.

PUBLIC SERVICE TECHNOLOGY

Sixty percent of all Public Service students are enrolled in Police Science. Corrections and Institutional Security all have less than 10 student majors. Tidewater reports enrollment in T.V. Production, but the subject field is not approved either for degree or certificate offering. See Appendix III for detailed enrollment.

Schools	Major	Percent Curricular Enrollment (0 5 10 15–60 65 70 80 90 100 %)
17	Police Science	(60.6)
5	Fire Science	(11.8)
1	Educational Services	(8.6)
3	Community Social Services	(7.1)
2	Corrections	(1.3)
3	Recreation & Parks	(3.4)
1	Radio & T.V.	(2.7)
1	Air Traffic	(1.9)
2	Occupational Safety & Health	(.8)
1	Institutional Security	(.2)

Certificate and Diploma Offerings (14)

OCCUPATIONAL-TECHNICAL OUTCOME MEASUREMENT

Vocational education can be assessed by a variety of outcome criteria--graduate trends, employment of graduates and non-graduates, and curricular relatedness to employment.

Graduation statistics in vocational fields can be misleading. Some vocational students do not intend to graduate or complete two full years of study--some take jobs before graduation, others take courses to enhance current employment potential. Nevertheless, most vocational students in VCCS are enrolled in degree programs and the JLARC student survey found 86% of all vocational students enrolled in the spring quarter, 1974, intended to graduate and receive an award.

Graduates by Program. In 1973-74, there were 3,597 AAS degree, certificate and diploma awards conferred by the VCCS. Of these, 2,602 were AAS degrees and 995 were certificates or diplomas. Of the sophomore students reported in subject majors in the fall of 1973, 89 percent graduated. This calculation does not include fall term students who were unclassified, but does include them in the awards. JLARC estimates (based on the redistribution of unclassified students) there were 7,607 sophomores taking vocational subjects for an award[21]. Based on this latter total, we estimate approximately half of all sophomores enrolled in degree programs graduated.

Table 19 shows the number of subject majors at each school with less than seven graduates and the number of programs with no graduates for 1973-74. System-wide nearly two-thirds of all subject fields had less than seven graduates and over a quarter had none. Well over half of all offerings at Patrick Henry had no graduates and only one school, Virginia Highlands, had graduates in every program offered. It should be pointed out that one school, (Piedmont Virginia) had graduates in an AAS degree program not approved by the Council on Higher Education and another school, (Mountain Empire), awarded a certificate in Air Conditioning that was not approved by the department.

Table 19

GRADUATES IN MAJOR FIELDS OF STUDY
AAS, DIPLOMA, CERTIFICATE
1973-74

	Degree Fields			Certificate/Diploma Fields		
School	Number Fields	Number Less Than 7 Grads	Number With No Grads	Number Fields	Number Less Than 7 Grads	Number With No Grads
Blue Ridge	12	7	-	12	9	4
Central Virginia	15	7	2	14	12	8
Dabney S. Lancaster	8	6	-	6	5	3
Danville	6	2	-	17	8	6
Eastern Shore	3	3	1	3	2	-
Germanna	9	7	1	6	7	-
J. Sargeant Reynolds	15	11	10	6	6	5
John Tyler	13	5	2	7	7	2
Lord Fairfax	8	3	-	7	8	4
Mountain Empire	3	2	-	6*	2	1
New River	11	2	1	20	13	6
Northern Virginia	31	9	5	20	19	10
Patrick Henry	6	3	3	6	7	4
Paul D. Camp	10	9	3	12	10	5
Piedmont Virginia	10*	9	6	7	6	3
Rappahannock	6	6	-	5	4	2
Southside Virginia	7	6	-	11	13	6
Southwest Virginia	11	6	3	9	8	4
Thomas Nelson	14	6	-	3	3	2
Tidewater	15	5	1	11	12	6
Virginia Highlands	5	3	-	6	2	-
Virginia Western	19	6	4	11	8	4
Wytheville	10	5	1	10	10	4
Total	249	120	62	212	176	83

*Each school reports graduates in programs not approved in 1973-74 by the Council or Department of Community Colleges where necessary.

Source: Compiled by JLARC staff from *Programs Approved for the VCCS, 1973-74*, and *Awards Conferred, 1973-74*, Research and Planning Division, Department of Community Colleges.

Graduates Compared To Enrollment. VCCS was not able to provide information to permit a precise analysis of graduates in relation to enrollment. Trends can be established over time by calculating the percentage of awards conferred to total occupational students. Unfortunately, the large number of unclassified students inflate the awards and deflate the enrollment base. But even with fall term unclassified students included in awards, only a quarter of all vocational students who enter a VCCS school eventually graduates. Table 20 shows graduates compared to enrollees by school since 1970-71.

Table 20

PERCENT OF GRADUATES TO ENROLLEES

School	1970-71	1971-72	1972-73	1973-74
Blue Ridge	18.3%	17.5%	19.7%	26.2%
Central Virginia	21.2	18.1	16.9	22.6
Dabney S. Lancaster	28.9	31.5	32.9	31.4
Danville	29.5	25.6	32.7	34.2
Eastern Shore	---	---	12.2	55.6
Germanna	.8	24.9	33.5	25.6
J. Sargeant Reynolds	---	---	---	12.0
John Tyler	18.3	16.4	20.0	25.0
Lord Fairfax	---	20.9	27.7	38.6
Mountain Empire	---	---	.7	21.4
New River	40.5	31.4	33.3	42.8
Northern Virginia	16.1	20.2	23.2	27.2
Patrick Henry	---	14.6	14.1	22.7
Paul D. Camp	---	3.0	17.9	17.6
Piedmont Virginia	---	---	---	13.1
Rappahannock	---	2.9	24.4	31.1
Southside Virginia	---	16.2	26.7	31.5
Southwest Virginia	27.0	16.8	14.2	14.2
Thomas Nelson	12.3	15.3	20.5	24.5
Tidewater	9.9	10.1	20.5	23.9
Virginia Highlands	19.8	30.9	40.4	25.9
Virginia Western	19.0	20.5	21.2	24.1
Wytheville	31.7	29.2	35.0	41.6
Total	18.9%	19.4%	22.1%	25.9%

Source: *Student Enrollment Booklets*, 1970-73, and *Awards Conferred*, 1970-73, Department of Community Colleges, Division of Research and Planning.

PERFORMANCE OUTPUT

The most important criteria to assess effectiveness is the benefit received by students from their community college study. In the occupational-technical program this includes the employment of graduates as well as non-graduates and the extent to which employment is a result of instruction. Several

individual schools, notably Northern Virginia and Virginia Western, follow the progress of former vocational students. However, the Department of Community Colleges has provided JLARC with valuable assistance in determining effectiveness outcomes. A study entitled, *Post College Activities of Former Occupational-Technical Students*, undertaken by the department in 1972, identified 11,623 students enrolled from 1966 through 1971 and surveyed them to determine the outcome of vocational study. This comprehensive follow-up survey examined many areas of effectiveness. The report focused on demographic characteristics, post-college activities, attitudes, retention patterns, and differences between graduates and non-graduates. JLARC requested and was given permission to use part of the preliminary report findings.

Questionnaires were mailed to 11,623 former students, 3,433 graduates (29%) and 8,190 non-graduates (71%) who had attended the existing thirteen colleges. There was a 61% response rate. Data useful in this analysis is contained in two parts--employment and curricular relatedness to employment.

Seventy-two percent of all respondents were employed full-time. The remainder were distributed among:

College Full-time	8%
Military Services	5%
Homemaker	5%
Employed Part-time	5%
Unemployed	3%
Other	2%

More graduates were employed full-time than non-graduates (78 and 69% respectively). Employment by curriculum varied sharply, from a low rate of 51% in Communications to a high of 78% in Engineering. Although communications is low in terms of employment, 20% of the respondents indicated that they were attending college. All post-college status is detailed in Table 21.

Table 21

POST COLLEGE STATUS BY CURRICULAR FIELD

Curriculum	N	Employed FT	Employed PT	College	Military	Homemaker	Unemployed	Other
Business	3,088	70%	5%	8%	5%	7%	3%	1%
Communications	136	51	9	20	5	6	7	3
Engineering	2,019	78	4	6	8	1	2	2
Health	324	61	14	9	1	12	2	2
Public Service	368	76	4	9	5	2	2	1
Other	182	76	7	9	2	3	3	1

The department found that 474 respondents (7.7%) were enrolled in occupationally oriented programs, but continued in a four-year college after leaving the community college. The 1974 JLARC and 1969 council surveys also determined that many vocational students (12%) intended to transfer.

The test that indicates whether employment is a result of the community college experience is job and curricular relatedness. A total of 3,468 students responded to the question on relatedness. Respondents had three choices: Related; Yes, Very Much; Yes, Somewhat; and No, or Very Little. For our analysis, the two affirmative responses were combined. A summary of curricular relatedness is shown below for initial employment. Of the total respondents, 40% claimed their first job bore little or no relation to their field of training. Unrelated employment ranged from a high of 62% in Communications to a low of 21% in Health. Non-graduates had a higher degree of unrelated employment than graduates.

CURRICULAR RELATEDNESS TO FIRST JOB

Classification	Number	Percent Related	Percent Not Related
Male	2,503	57%	43%
Female	965	69	31
Graduate	1,460	70	30
Non-Graduate	2,008	53	47
AAS	897	70	30
Diploma	283	72	28
Certificate	276	69	31
Business	1,713	59	41
Communications	58	38	62
Engineering	1,240	41	39
Health	161	79	21
Public Service	179	55	45
Other	117	61	39
Total	3,468	60	40

The study also distinguished between initial employment and the respondents' most recent job. Responses to curricular relatedness questions about current employment show a decided improvement over initial employment (72% related and 28% non-related). Individual curricular fields varied from a high of 41% unrelated in Communications to 8% in Health. The following table shows relatedness for employment after the initial job by curricular field.

CURRICULAR RELATEDNESS TO PRESENT JOB

Field of Study	Number	Percent Related	Percent Not Related
Business	1,928	71%	29%
Communications	56	59	41
Engineering	1,434	69	31
Health	170	92	8
Public Service	258	78	22
Other	128	75	25
Total	3,974	72%	28%

Combining the two characteristics, employment and job relatedness, shows that about half of the community college students are employed in jobs related to training, half are not.

EMPLOYMENT AND JOB RELATEDNESS

Classification	% Employees Full-Time	% In Related Employment	% Employed Full-Time in Field of Training
Business	70%	71%	49.7%
Communication	51	59	30.1
Engineering	78	69	53.8
Health	61	92	56.1
Public Service	76	78	59.3
Other	76	75	57.0
Total	72%	72%	51.8%

Less than a third of all Communications students are presently employed in fields related to study subjects. The highest relationship is in Public Service where nearly two-thirds of all former students were employed in fields related to their study.

The reason given by former students why they were not employed in fields related to curriculum provides an indication of whether the community college experience could have made a difference. That is, some reasons for unrelated employment cannot be controlled; other reasons tend to indicate the school did not adequately prepare students. In the *Post College Activity* study, students were asked to indicate why they were not employed in their field of training and multiple responses were permitted:

- Not sufficiently qualified
- Preferred other work
- No job in field
- Better pay in another area
- Continued education to become qualified
- Other

Responses are shown below for each reason organized to show what can be termed negative or neutral reponses.

REASONS FOR UNRELATED EMPLOYMENT

		Negative			Neutral		
Category	N	No Job In Field	Not Suff. Qual.	Prefer Other Work	Continuing Ed. to Become Qualified	Better Pay	Other
Graduate	297	48%	12%	24%	2%	28%	13%
Non-Graduate	765	19	36	31	4	26	9
AAS	165	49	13	22	3	28	15
Diploma	70	37	9	27	1	34	16
Certificate	61	59	13	21	--	21	5
Business	521	30	31	30	4	27	9
Communications	23	35	35	13	9	13	4
Engineering	421	25	28	30	3	28	10
Health	12	8	33	17	8	33	17
Public Service	53	17	28	23	6	21	21
Other	6	25	16	25	3	28	19

An overview of the *Post College Activities* survey leads to several important conclusions. First, community college students are likely to find employment whether they graduate or not. Secondly, half of all students can attribute jobs to the field they studied in school. Finally, assuming these findings are representative of VCCS students each year, we can estimate that of the 33,700 students now estimated as enrolled in VCCS to prepare for new careers or enhance job potential:

- 24,200 will find full-time employment (most of them in Virginia).
- 17,400 will be employed in a job related to their education.
- 6,800 will be employed in jobs not related to their education.
- 1,800 will find there is no job in the field for which they were trained and up to 300 additional students will find they are not qualified in their subject majors.

Conclusion

The fact that the Department of Community Colleges carried out the *Post College Activities* study is commendable and indicates its concern that the system assess its performance. Overall, performance appears favorable. JLARC has noted, however, there is substantial variation among colleges in other performance data, and system-wide information does not distinguish between those

schools that achieve good results from those that do not. The department has made the follow-up study available to each school. The legislation that created the VCCS requires that the State Board and its administrative arm be much closer attuned to its management responsibility and compile and use results by school. The State Board should take corrective action where analysis indicates it is necessary. To report that 1,800 students may be trained for jobs that are not available is a substantial criticism. Proliferated programs with few students and graduates can not be cost-effective.

There are too many curricula with too few students. Regional education requires regional need, and where none exists, the State Board should consider expanding the use of consolidated programs at fewer schools. Standard productivity measures, with reasonable exceptions, should also be applied. And the department should assert its leadership role, reassess state-wide occupational-technical needs and require a reassessment of local need at least in subject areas with low productivity.

PROGRAM COSTS

University parallel and occupational-technical programs can be justified by many attributes. Nevertheless, in any public enterprise, costs must be carefully monitored. In a community college, if course or program expenditures are excessive -- either because there are too few students or capital and operating costs are too high, and other justification is weak, a decision may have to be made not to offer the subject or course. If, on the other hand, costs can be distributed within existing resources, a decision can be made on the basis of other criteria such as need, service, or interest. Several programs offered by the VCCS can be used to illustrate these various alternatives.

Nuclear Technology. Central Virginia began a Nuclear Technology program in 1974-75. The program request, approved by the Council of Higher Education, estimated the subject major would require $93,500 ($70,000 equipment) in additional funding. Operating costs were estimated at $45,250 each year based on 15 FTE students the first year, 28 the second and 35 the third. If these projected enrollments were achieved, cost per FTE student would be $3,017, $1,616, and $1,293 in the first three years respectively. Employment potential was estimated at 270 local jobs in the immediate future, and more than 16,500 jobs in the Southern Interstate region by 1975. Twelve new courses had to be added for the program.

Only 21 students (4 full-time and 17 part-time) initially enrolled in the program in its first year. Based on the estimated expenditure, program costs would have been $4,681 per FTE student, and a costly program would have been more expensive because of low student enrollment. However, there probably is need for a two-year degree in Nuclear Technology. In a telephone interview with Babcock and Wilcox, a nuclear technology firm in the Central Virginia region, the personnel director reported the industry would be hiring program graduates soon. In view of recent emphasis on finding alternatives to oil based power, nuclear technology also appears to be a growing part of Virginia's industry and the program may well prove to be cost-effective in a few years.

Chemical Technology. The Chemical Technology program at John Tyler, however, is clearly not cost-effective. The program has been taught for seven years and for the past three, there have been an average of one full-time and three part-time students enrolled (four graduates since 1967). During our campus visit, the Dean of Instruction said the program may have to be discontinued because the chemical industry was obligated to hire directly from high school and train on-the-job in light of union wage policy. Even though expenditures cannot be separately identified (included in the engineering division totals), low enrollment, lack of employment opportunity and practical characteristics of the industry render this program too costly for continuation at this time.

Electronics Technology. Rappahannock has offered an electronics program that was based on recommendations contained in the *Curriculum Master Plan for Occupational-Technical Education,* 1970, prepared by the Department of Community Colleges. The school is reconsidering the need for this subject major.

There is not much electrical industry in the Rappahannock region, the nearest electronics plant is in Newport News or Richmond, and electronics is offered at four other community colleges in the region. The course is very

expensive. Average FTE enrollment has been about seven students each term and costs exceeded $4,300 per FTE in the fall of 1974--four times FTE enrollment costs system-wide. Spring term expenditures were reduced to $2,449 per FTE student but were still $1,366 more than spring term electronics cost system-wide and $600 more than the average cost of all programs taught at Rappahannock.

The major may not be justified on the basis of cost, but a number of electronic courses are essential to other fields of study and would have to be offered. Therefore, while some costs could be saved by discontinuing electronics as a degree field, the greatest benefit would be in a redistribution of teaching resources.

Drafting and Design Technology. School size is not always the crucial factor in costs. Northern Virginia, largest of VCCS schools with 21,439 students, spent $1,617 per FTE enrollee in drafting while New River (1,864 students) spent $840. Both programs cost about $38,000 during the 1973-74 academic year.

These programs have not been singled out to necessarily identify programs that should be dropped, but to indicate that cost must be one consideration to determine the appropriateness of course offerings. Costs should be carefully monitored and high expenditures by one school measured against some reasonable standard should be considered as a signal that course offerings need review.

JLARC has analyzed program costs for each school and calculated: the average instructional cost per FTE student for the fall and spring quarters of 1973-74; and, fall quarter FTE enrollment cost in selected subjects. All calculations were derived from expenditure and student credit hour reports prepared for the Council of Higher Education. Table 22 details the average instructional expenditures compared to the VCCS mean, and schools are ranked from high to low by fall quarter average costs.

School size does play some part in instructional costs. A correlation between FTE enrollment and cost ($r = -.42$) indicates that as school size increases, costs decrease. But the extent to which each VCCS college deviates from the system mean is not simply a function of size. Patrick Henry, the second smallest college (692 students) has the lowest cost both quarters while Rappahannock (741 students) has the highest. A strong relationship ($r = -.64$) has been found between high and low cost and the extent of inaccuracy in enrollment forecasting for budget purposes (see Appendix III). The more accurate enrollment forecasting becomes, the more instructional costs drop. This kind of relationship tends to support the assumption that colleges spend the funds made available, notwithstanding student enrollment. Neither the department nor the schools have demonstrated that cost is given due consideration as a management tool.

Costs Based on FTE Enrollment

JLARC also calculated the cost of instruction per FTE enrollee for two major instructional divisions at each community college and nine courses in other divisions, based on fall 1973 data. This approach was found to be necessary because instructors often teach different subjects within their respective divisions (i.e.) a history professor may teach history, government and sociology classes. Since the Department of Community Colleges does not report cost prorated by subject, JLARC was unable to identify proportionate relationships in all cases.

Table 22

AVERAGE ANNUAL INSTRUCTIONAL EXPENDITURES (FTE STUDENT)[1]
(Based on Fall or Spring Quarter 1973-1974 Enrollments)

School	Fall Quarter	Spring Quarter	Percent Increase/Decrease
Rappahannock	$1,548	$1,855	20%
Dabney S. Lancaster	1,482	1,710	15
Mountain Empire	1,394	1,490	7
Germanna	1,373	1,805	32
Virginia Highlands	1,209	1,471	22
Southside Virginia	1,166	1,236	6
Southwest Virginia	1,156	1,425	23
Eastern Shore	1,137	1,278	12
Wytheville	1,131	1,228	8
Lord Fairfax	1,070	1,299	21
Paul D. Camp	1,038	1,034	--
J. Sargeant Reynolds	986	1,076	9
Virginia Western	962	1,187	23
John Tyler	964	1,202	25
Piedmont Virginia	932	1,081	16
System Mean	$ 895	$1,066	19
Blue Ridge	876	1,164	33
Central Virginia	870	1,065	22
Danville	844	1,015	20
Thomas Nelson	79[illegible]	1,098	39
Tidewater	770	882	15
New River	770	878	14
Northern Virginia	749	893	19
Patrick Henry	685	835	22

[1] Costs are based on expenditures identified for instruction only: Expenditure total ÷ (credit hours produced ÷ 15).

Source: Calculated by JLARC from Council of Higher Education Reports E-1 (costs) A-1(credit hours), Fall 1973, Spring 1974.

The Division of Social Science and Engineering and Industrial Technology and nine other courses were selected for independent cost review because: expenditures could be separately identified; the subject or course was offered by several schools; and, instructional overlap with other curricular fields is less likely. Information provided by the Management Services Division also aided in analysis by prorating an instructors time in curricula outside his own field--a practice not yet implemented system-wide. Attention was also given to selected subjects that were representative of different types of school offerings. The following tables separate courses into two rough categories--subjects that are predominately academic and those that are vocational. Expenditure figures are based on all credit hours produced by all students enrolled regardless of major.

Table 23

ANNUALIZED ACADEMIC COURSE COSTS

Based on FTE Enrollment, Fall Quarter, 1973

School	Mean	Div. of Soc. Sci.	Arts	Music	Philosophy	Physical Education	Physics
		$ 396	$ 506	$ 541	$ 261	$ 947	$ 737
Blue Ridge		385	136	325	---	641	3,136
Central Virginia		501	689	---	289	2,496	723
Dabney S. Lancaster		402	---	361	---	1,813	---
Danville		323	---	---	---	130	422
Eastern Shore		511	1,397	---	---	---	163
Germanna		494	1,438	207	---	2,614	1,774
J. Sargeant Reynolds		276	791	---	225	1,655	499
John Tyler		459	---	---	---	1,996	1,208
Lord Fairfax		466	386	366	---	2,140	1,098
Mountain Empire		238	2,083	29	---	451	580
New River		312	160	573	347	971	551
Northern Virginia		387	470	702	374	1,073	467
Patrick Henry		282	---	404	---	1,430	787
Paul D. Camp		387	318	192	---	1,119	1,230
Piedmont Virginia		342	644	---	271	889	1,232
Rappahannock		334	---	---	54	757	6,234
Southside Virginia		456	194	927	---	2,420	872
Southwest Virginia		382	---	76	---	570	549
Thomas Nelson		443	545	---	236	358	1,079
Tidewater		427	518	586	95	1,163	537
Virginia Highlands		443	478	928	119	209	130
Virginia Western		414	964	1,272	---	2,022	871
Wytheville		450	69	58	107	841	917

Source: Calculated by JLARC from Council of Higher Education Reports E-I (costs) and A-I (credit hours), 1973-74. Supplemented by data provided by Dr. L. Thomas Overby, Director, Management Services, Virginia Department of Community Colleges.

Table 24

ANNUALIZED VOCATIONAL COURSE COSTS
Based on FTE Enrollment, Fall Quarter. 1973

School	Div. of Engr. & Ind. Tech.	Agri-culture	Data Pro-cessing	Fire Science	Law Enforcement
Mean	$ 1,223	$ 1,121	$ 1,201	$ 526	$ 490
Blue Ridge	1,150	1,877	1,658	366	285
Central Virginia	1,383	--	1,806	936	762
Dabney S. Lancaster	621	--	--	--	1,403
Danville	1,053	--	1,504	--	528
Eastern Shore	876	--	203	--	---
Germanna	3,346	--	--	--	700
J. Sargeant Reynolds	890	806	1,041	1,022	684
John Tyler	1,914	--	2,191	431	1,109
Lord Fairfax	1,179	1,487	--	--	1,167
Mountain Empire	1,400	--	--	--	--
New River	960	--	--	--	277
Northern Virginia	1,040	351	911	563	407
Patrick Henry	581	--	--	--	--
Paul D. Camp	1,405	171	377	--	369
Piedmont Virginia	1,500	--	278	--	737
Rappahannock	3,371	--	4	--	955
Southside Virginia	1,443	1,091	--	--	600
Southwest Virginia	1,163	--	75	--	297
Thomas Nelson	1,316	--	3,302	293	410
Tidewater	1,388	--	1,423	372	467
Virginia Highlands	1,523	--	--	281	--
Virginia Western	1,020	--	1,208	271	389
Wytheville	1,174	--	22	--	572

Source: Calculated by JLARC from Council of Higher Education Reports E-1 (costs) and A-1 (credit hours), 1973-74. Supplemented by data provided by Dr. L. Thomas Overby, Director, Management Services, Virginia Department of Community Colleges.

A review of the divisional and course data indicates that costs at some colleges are exceptionally high compared to the system mean, (The mean, it should be noted, has no practical meaning but is used as a comparative benchmark--the means are not necessarily high or low.) College transfer (academic) courses generally cost less than occupational-technical (vocational) subjects. Nonetheless, any course can be expensive at any school.

Social Science subjects at Eastern Shore, the smallest school, are $115 above the mean and at Central Virginia, the seventh largest school, they are also above the mean by $105. Rappahannock and Patrick Henry, both among the smallest schools, spend less than the mean. No relationship was found between school size and cost per FTE enrollee in Social Science.

School size is not the major determinant of vocational division costs either. Thomas Nelson, Tidewater, Central Virginia, and John Tyler, among the largest schools, exceed the VCCS mean by amounts ranging from $93 to $691. Cost data on the other nine courses show similar deviations from the VCCS mean--differences that certainly warrant careful review and analysis by the State Board and the department.

The High Cost of Low Enrollment

The principal controllable factor that influenced high instructional costs was found to be class size (see Appendix III). Simply stated, low enrollment results in high cost. This fact is not at all surprising since the incremental cost of adding one student to a class is usually nominal. Teachers, supplies, and overhead cost are about the same for one student or 20. (Even equipment cost remains constant after initial purchase.) JLARC reviewed all 1973 fall quarter class data available from the VCCS and accumulated the number of classes at each school that had less than 15 and less than 10 students, the results are shown in Table 25. Enrollment of less than 15 students was selected because it corresponded with the Council of Higher Education productivity standards and to budget allowances.

The significance of class size can be roughly translated into dollars by determining the effect small classes have on instructional expenditures. JLARC carried out a regression analysis in an effort to predict possible savings for 1973-74 based on reducing the number of classes with less than 15 students to some reasonable level. We used the VCCS mean of 44.9% of all classes with less than 15 students. We assume this figure is conservative since 14 schools achieve a lower percentage of small classes -- some with as few as 20 - 25%.

Based on the regression analysis, JLARC estimates the VCCS could have saved approximately $500,000 (minimum $249,166 - maximum $750,492) over the 73-74 academic year by insuring that no more than 44.9% of all classes taught had fewer than 15 students enrolled.[a]

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[a]The regression formula is: $Y = A \pm bx_i \ldots \pm bx_n \pm$ Standard Error

$Y = 261{,}825 + 740\ (x_1) + 362{,}194\ (x_2) - 93{,}335\ (x_3) - 192{,}481\ (x_4) \pm 250{,}663$

Y = Annual instructional expenditures: x_1 = FTE students:

x_2 = % classes > 15: x_3 = % students < 20 miles: x_4 = % enrollment forecast accuracy. (Multiple r = .997)

Certainly, community colleges need to have some small classes scheduled to meet the particular requirements of part-time or evening students and to avoid scheduling conflicts for full-time students. Some classes also require more personal, individualized teacher-student contact. Nevertheless, there is no reason to believe that any one college could not achieve a similar percentage of large and small classes that corresponds to the average of all schools.

Conclusion

The cost analysis presented in this chapter cannot substitute for a complete review of all instructional costs by the Department of Community Colleges. It does highlight differences between schools; it is not possible within the constraints of this evaluation to identify the classes that can be dropped. Several obvious conclusions are possible from the data. First, community college costs are related to forecasts of FTE enrollment. Where estimates are inflated, expenses are high, classes remain unfilled, and scarce public resources can be wasted. Once forecasts are accepted as official, there is no practical opportunity for reassessment by the General Assembly. In addition, once funds are appropriated, the legislature loses the opportunity to reapportion to other important State functions and programs. Similarly, if institutional management ignores cost and permits an unlimited number of small classes to be taught without adequate justification, not only will public resources suffer, other institutional services suffer as well. The VCCS should immediately adopt and implement reasonable class size standards and insure they are met.

Table 25

NUMBER OF CLASSES WITH LESS THAN 15 ENROLLEES
AND LESS THAN 10 ENROLLEES BY INSTITUTION
Fall Term, 1973

School	Number Less Than 15	Percent Less Than 15	Number Less Than 10	Percent Less Than 10
Southwest Virginia	248	69%	184	51%
Eastern Shore	39	60	33	51
Southside Virginia	185	68	136	50
Rappahannock	101	63	76	48
Germanna	101	58	78	45
Dabney S. Lancaster	101	60	68	40
Virginia Highlands	155	57	98	37
Paul D. Camp	87	52	62	37
Mountain Empire	88	52	61	36
Lord Fairfax	71	41	55	32
New River	146	43	97	29
Wytheville	110	46	68	29
Piedmont Virginia	79	41	52	27
John Tyler	147	45	85	26
Blue Ridge	78	35	55	25
J. Sargeant Reynolds	147	37	95	24
Patrick Henry	41	36	24	21
Tidewater	313	33	201	21
Danville	116	34	61	18
Virginia Western	142	28	83	17
Central Virginia	102	30	55	16
Thomas Nelson	84	23	55	15
Northern Virginia	442	21	241	12

See Appendix III for detailed compilation of classes less than ten.
Source: Calculated by JLARC from the Council on Higher Education, Report A-1, Fall 1973.

GENERAL AND CONTINUING ADULT EDUCATION

In addition to university parallel and occupational-technical instruction, the VCCS is charged to provide general and continuing education courses for adults.[22] Unlike the other two programs, the scope of this mission has not been clearly defined. The Council of Higher Education does not recognize this community college function as different from that carried out by four-year schools. In fact, the council defines *continuing education* as "educational experiences both credit and non-credit provided by institutions of higher education primarily for adult citizens who are fully employed or for whom education is not their immediate and primary interest"[23]. Using this definition, over half of the VCCS enrollment might be classified as continuing education students since the JLARC student survey showed that three-fourths of the occupational students and about one-third of the university parallel students are employed full-time. Furthermore, community college students have multiple reasons for attending school. Thus, the definition does not provide an adequate mechanism to distinguish between students attending a VCCS college by program or by employment status.

The State Board has defined this mission in another fashion, creating definitional conflict and confusion. The board identifies three separate functions by program.

- *General Education* - programs encompassing the common knowledge, skills, and attitudes needed for an individual to be effective as a person, a member of a family, a worker, a consumer and a citizen.

- *Continuing Adult Education* - programs which enable adults to continue their learning experience through degree credit and non-degree credit work.

- *Public Service Programs* - programs not conducted in classrooms, such as cultural events, workshops, meetings, lectures, conferences, seminars and special community projects which provide needed cultural educational opportunities for the citizens of the region.[24]

This definition consigns virtually the full range of instructional programs at a community college, including university parallel and occupational-technical programs to a general and continuing education function.

JLARC's review of legislative history indicates that continuing education was intended to provide area residents with educational, cultural, and recreational courses, based on regular institutional resources, but not intended for degrees or awards. Thus, for this evaluation, JLARC includes in general and continuing education participants who:

- Enroll in credit courses *but* cannot be classified in one of the major fields of study offered in university parallel or occupational-technical curricula for award purposes; and/or,

- Take "public service" offerings sponsored by the community colleges, usually on a self-supporting basis.

Students Enrolled in Credit Courses. The VCCS enrollment statistics do not permit identification of specific enrollment in general and continuing adult education courses. Based on the JLARC student survey, we estimate that approximately 16% (6,652) of the VCCS spring quarter, 1974 enrollment could not be assigned to regular programs. Table 26 shows the distribution of these students by age. As expected, the majority (95%) are not traditional college age students.

Table 26

GENERAL AND CONTINUING EDUCATION STUDENTS BY AGE
(JLARC Classification)

Age	Percent of Students
Under 16	.5%
17-22	4.8
23-30	50.5
31-40	18.6
41-50	11.7
51-64	12.9
Over 65	1.0

Source: JLARC Student Survey, September, 1974

Public Service Offerings. Public service programs do not carry academic credit but provide instructional opportunities on or off campus. Usually, they are designed to meet the social and cultural interests of the college regions. These programs are grouped into two categories:

- Those for which the Continuing Education Unit (CEU) is awarded in conformity with standard guidelines of the Southern Association of Colleges and Schools. (One Continuing Education Unit represents ten contact hours of participation in an organized education experience).

- Those which are less formally structured and do not meet the criteria established for the CEU.

Although public service programs were not specifically mandated by the enabling legislation, it is clear that the General Assembly intended VCCS to serve educational and cultural interests in the "community". During 1973-74, there were 964 public service programs in which CEU's were awarded and 19,193 people participated.

Information concerning public service offerings that do not carry CEU credit is limited. The department provided JLARC with a summary of receipts and disbursements for an 18-month period which amount to about $679,000 for the system. The number of courses offered during this time was not available.

Measures of Effectiveness

Since continuing education is designed to serve the occasional needs of

area adults, JLARC has selected performance measures that focus on the extent of community outreach beyond the full-time college population including:

- Proportion of area residents served.
- Ratio of part-time to full-time students.
- Proportion of students older than the traditional college age.
- Availability of courses throughout the day and evening.
- Availability of public service offerings.

Proportion of Area Residents Served. The ratio of students per thousand area residents is one criterion that can measure a college's outreach. The higher the ratio, the more its potential adult population is served. Table 27 illustrates the proportion of area residents served by each college for a three-year period.

Table 27

NUMBER OF STUDENTS PER 1,000 AREA RESIDENTS
By College, By Year

Community College	1970	1971	1973
Blue Ridge	8.89	8.33	9.07
Central Virginia	9.83	9.61	11.52
Dabney S. Lancaster	7.52	8.87	10.07
Danville	13.49	14.62	15.57
Eastern Shore	---	2.48	4.63
Germanna	3.18	6.88	5.48
J. Sargeant Reynolds	---	---	7.96
John Tyler	5.13	5.53	5.36
Lord Fairfax	4.89	6.20	7.50
Mountain Empire	---	---	7.79
New River	5.55	8.62	14.31
Northern Virginia	10.55	12.91	17.51
Patrick Henry	---	5.15	7.95
Paul D. Camp	---	7.39	12.61
Piedmont Virginia	---	---	10.15
Rappahannock	---	4.56	7.05
Southside Virginia	2.16	6.24	8.21
Southwest Virginia	8.76	9.33	14.01
Thomas Nelson	6.94	7.14	9.11
Tidewater	2.60	4.06	7.40
Virginia Highlands	6.51	9.07	13.75
Virginia Western	12.64	13.99	15.95
Wytheville	10.59	11.32	14.25
VCCS Median	7.52	8.36	9.11

Sources: State Council of Higher Education, Resident Headcount Enrollment changes; Two Year Institutions of Higher Education, First Semester or Quarter, 1969-70 - 1973-74; 1970 Census, 1971 and 1973 Tayloe Murphy Institute, University of Virginia.

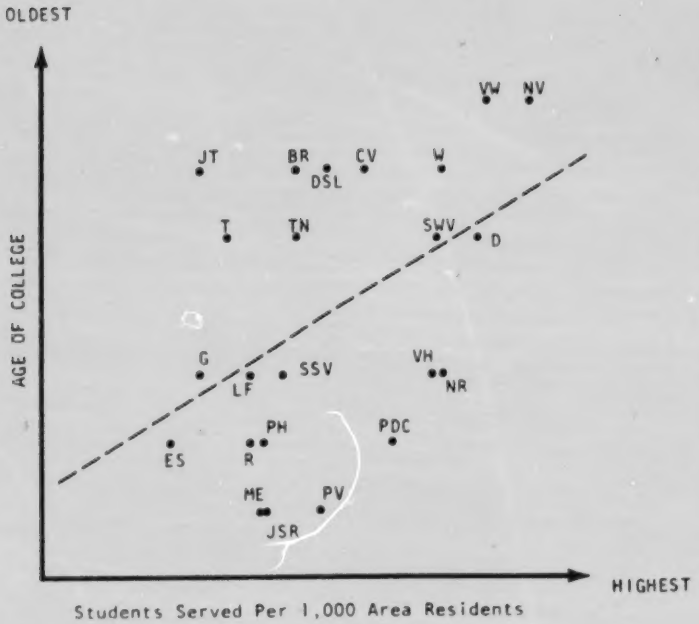
The median ratio for the system was 9.1 to 1000 in 1973 compared to 7.5 to 1000 in 1970. While the increase is noteworthy, Virginia will have to more than double it's ratio to achieve the expected ratio of 20 to 1000 by 1980 proposed by Dr. James Wattenbarger in a study for the U. S. Office of Educations, National Educational Finance Project.[25] Dr. Wattenbarger examined 15 exemplary colleges in seven states and found the median ratio of students served per 1000 area residents to be 17. (Note: Northern Virginia is the only Virginia community college to meet this level of service). He stated that if a state is providing an adequate number of community colleges and if these colleges are appropriately serving their citizenry, obtaining a ratio of 20 students per 1000 residents by 1980 is entirely reasonable.

The prospect for increased service is encouraging. JLARC found a positive relationship between the number of years a VCCS college has been operational and the number of students served per 1,000 residents. Figure 20 presents a visual display of this relationship. The general pattern of the scattergram shows that usually schools can be distributed along the VCCS mean by years in operation. The exceptions stand out. For example, three-year-old Paul D. Camp is above the mean in number of students served per 1,000 area residents, while seven-year-old John Tyler is the second lowest school in students served per 1,000 residents. In addition, New River and Virginia Highlands, both have achieved much higher outreach than Tidewater, Thomas Nelson, Blue Ridge and Dabney S. Lancaster despite several years difference in institutional age.

Figure 20

OUTREACH BY AGE

1973



(Correlation, r = .46)

BR - Blue Ridge
CV - Central Virginia
DSL - Dabney S. Lancaster
D - Danville
ES - Eastern Shore
G - Germanna
JSR - J. Sargeant Reynolds
JT - John Tyler
LF - Lord Fairfax
ME - Mountain Empire
NR - New River
NV - Northern Virginia
PH - Patrick Henry
PDC - Paul D. Camp
PV - Piedmont Virginia
R - Rappahannock
SSV - Southside Virginia
SWV - Southwest Virginia
TN - Thomas Nelson
T - Tidewater
VH - Virginia Highlands
VW - Virginia Western
W - Wytheville

Source: Department of Community Colleges, Office of Research & Planning, Student Enrollment Booklet, Fall 1973, (Richmond, Va., 1973), and "Estimates of the Population of Virginia Counties & Cities, July 1, 1973", (Charlottesville, Va.: Tayloe Murphy Institute, 1974).

Student Age Distribution. Table 28 shows the concentration of students over the traditional college age (23 and over) at each school. While 60% of all VCCS students are more than 22 years old there are notable variations between the individual schools. For instance, Patrick Henry and Central Virginia serve a much smaller proportion of older students than most of the other colleges. In contrast, Tidewater is an example of one school where the orientation is particularily toward the older student.

Table 28

AGE PROFILE OF COMMUNITY COLLEGE STUDENTS
Spring 1974

	% Traditional College Students (22 and under)	% Non-Traditional College Students (23 and over)
Blue Ridge	30%	70%
Central Virginia	70	30
Dabney S. Lancaster	49	51
Danville	52	48
Eastern Shore	53	47
Germanna	57	43
J. Sargeant Reynolds	41	59
John Tyler	33	67
Lord Fairfax	45	55
Mountain Empire	55	45
New River	31	69
Northern Virginia	27	73
Patrick Henry	80	20
Paul D. Camp	31	69
Piedmont Virginia	36	64
Rappahannock	58	42
Southside Virginia	36	64
Southwest Virginia	42	58
Thomas Nelson	46	54
Tidewater	20	80
Virginia Highlands	47	53
Virginia Western	35	65
Wytheville	44	56
VCCS	36	64

Source: JLARC Student Survey, September, 1974

Part-Time/Full-Time Enrollment. The mix of part-time and full-time students is another outreach indicator. The JLARC student questionnaire revealed that younger students generally attend full-time while older students attend part-time. In the student survey, 73% of the 17-22 year olds indicated they attend full-time, but there is a steady increase in part-time attendance as student age increases.

Table 29 shows that enrollments in community colleges are becoming increasingly part-time. In 1972, eleven of the colleges had more part-time than full-time students. In 1973 the number increased to sixteen, and by 1974 twenty of the 23 community colleges had a larger part-time than full-time enrollment. In four of the colleges, the ratio is greater than two to one--John Tyler, Paul D. Camp, Northern Virginia and Southside Virginia.

Table 29

RATIO OF PART-TIME TO FULL-TIME STUDENTS, 1972-1974
By College, By Year

Community College	Fall, 1972	Fall, 1973	Fall, 1974
Blue Ridge	1.37	1.26	1.38
Central Virginia	1.19	1.29	1.83
Dabney S. Lancaster	.93	1.36	1.35
Danville	.85	1.00	.93
Eastern Shore	.52	.45	1.35
Germanna	.76	.83	1.47
J. Sargeant Reynolds	.35	1.88	1.65
John Tyler	1.07	1.43	2.11
Lord Fairfax	1.20	1.21	1.43
Mountain Empire	.79	.92	1.80
New River	.86	1.06	1.11
Northern Virginia	1.51	1.53	2.04
Patrick Henry	.95	1.10	1.33
Paul D. Camp	1.27	1.28	2.49
Piedmont Virginia	1.66	1.43	1.55
Rappahannock	.93	1.40	1.84
Southside Virginia	1.16	.92	2.19
Southwest Virginia	1.37	1.03	1.22
Thomas Nelson	1.12	1.37	1.79
Tidewater	.60	.91	1.51
Virginia Highlands	.36	.68	.90
Virginia Western	1.03	1.19	1.38
Wytheville	.60	.95	.98
VCCS Average	1.09	1.26	1.66

Source: Department of Community Colleges, *Student Enrollment Booklets*, 1972, 1973, and 1974.

Availability of Courses Throughout the Day. For community colleges to meet area needs, courses must be available throughout the day and evening to accomodate working students and others unable to attend during usual daytime school hours. Few VCCS students have difficulty getting the classes wanted. Respondents to the student survey classified in continuing education status (unclassified) indicated more difficulty getting classes than regular students. In this case, the usual problem was that classes were not offered or were scheduled at inconvenient times. However, as a general rule, the colleges do not offer

classes on Friday evening or on Saturday. A study by Virginia Western Community College of hourly enrollments indicated that low enrollment in late afternoon classes was not attributed to reluctance of students to enroll, but to the lack of popular course offerings during those hours.[26] Failure to schedule later afternoon classes, Friday evening and Saturday classes is probably a result of reluctance on the part of faculty and administrators to be on campus during those hours.

Changing Courses from Public Service to Credit Status. Each year, a number of public service courses are reclassified for credit offering. Prior to the 1974-75 school year, the Department required the colleges to request approval to change a course from non-credit to credit. This policy was discontinued and, now, the colleges may offer any course appropriate for an approved curriculum if it appears in the VCCS *State Curriculum Guide*. Unfortunately, records have not been maintained by the department on the number of courses that were changed from public service to credit status. The colleges report that most changes occur in arts and crafts courses and are only made when enrollment demand justifies the action. The status change, however, means that a course no longer needs to be self-supporting and, while it costs the student less, it costs the State more. Lack of monitoring by the department does not permit consistent application of policy with respect to course conversion.

Public Service Offerings. Table 30 shows the number of public service courses which offer CEU credit, the number of participants and the total contact

Table 30

PUBLIC SERVICE PROGRAMS (CEU)
Participants and Contact Hours
July 1973 - June 1974

Community College	Number of Offerings	Total Participants	Total Contact Hours
Blue Ridge	20	1,014	32,170
Central Virginia	5	230	7,097
Dabney S. Lancaster	3	42	426
Danville	19	297	10,695
Eastern Shore	21	256	5,940
Germanna	11	175	1,862
J. Sargeant Reynolds	0	0	0
John Tyler	38	837	17,691
Lord Fairfax	34	844	13,795
Mountain Empire	47	806	12,275
New River	33	544	11,322
Northern Virginia	271	5,666	143,647
Patrick Henry	26	595	27,848
Paul D. Camp	63	954	9,246
Piedmont Virginia	27	362	6,738
Rappahannock	51	703	19,380
Southside Virginia	2	32	256
Southwest Virginia	4	47	304
Thomas Nelson	132	2,925	135,589
Tidewater	58	1,026	71,725
Virginia Highlands	20	305	10,140
Virginia Western	58	795	16,423
Wytheville	21	738	16,900
VCCS Total	964	19,193	571,469

Source: State Council of Higher Education for Virginia - Form Q-1, 1973-1974.

hours, for each community college for 1973-74. Some community colleges place considerably more emphasis on public service offerings than others. Northern Virginia, the largest VCCS school, served nearly twice as many participants as Thomas Nelson, and five times the number served by Tidewater, the schools ranked second and third in total number of participants. Three schools (Dabney S. Lancaster, Southside Virginia, and Southwest Virginia) enrolled less than 100 participants. It is interesting to note that the over 40 year old enrollment at two of these schools is also very low (5% at Dabney S. Lancaster and 8% at Southwest Virginia).

Public Service offerings which do not award CEU's must be totally self-supporting from student fees. The directors of continuing education coordinate these offerings and maintain records on revenues and expenditures and colleges will usually offer any program in which ten people are willing to enroll. The charge to the student includes, a pro rata share of the instructor's salary, cost of materials, and additional costs associated with the course, such as facility or equipment rental. Some class revenues exceed expenditures, while others do not meet expenses. The community colleges' goal, however, is not to make or lose money. If public service classes yield a surplus of revenues, free public service offerings may be held. At some schools, local funds (from the local board) are made available to offer a free course or to meet a deficit.

Public Service accounts are audited annually by the department's Division of Administration and Finance. The audit reports show total receipts and disbursements for the program, but not receipts and disbursements for individual courses. A summary for the period July 1, 1973 - December 31, 1974, is included in Table 31. Surpluses ranged from $584.22 at Central Virginia to $65,437.68 at Northern Virginia.

Prior to July, 1974, revenues and expenditures for public service programs were managed by each college and any surplus could be carried forward from year to year. In 1974, the procedure was changed and all receipts and disbursements must be processed through the State treasury because the State Budget Office ruled that VCCS was not in compliance with State law. Section 2.1-180 of the *Code* of Virginia requires that all agencies deposit any funds received into the treasury without deduction for any expenses. Balances, at year's end, revert to general funds.

During campus visits, the colleges voiced strong objection to the new procedure and point to delays in processing requisitions and vouchers, adversely affecting their responsiveness to area needs. Several colleges indicated they will probably be unable to continue to offer many public service programs because of the resulting payment delays. Most of these courses are short term (hours, days or weeks) and cannot always be planned in advance of registration. Instructors are often paid based on actual enrollment and, therefore, several weeks may pass before payment is made through the regular vouchering system.

The disadvantages of centralized processing and disbursements seem to outweigh the advantages for these short term public service courses. An appropriate auditing procedure would insure the funds are spent for intended purposes and keeping funds in local accounts would permit quick response to expenditure requirements. The VCCS public service funds should probably be exempt from the Code requirement in the same fashion as endowment funds or gifts to public institutions. At the same time, the State Board should adopt detailed standards to

Table 31

COMMUNITY SERVICE ACCOUNTS
Receipts And Disbursements
July 1, 1973 - December 31, 1974

School	7/1/73 Balance	Receipts	Disbursements	12/31/74 Balance
Blue Ridge	$ 999.22	$25,258.18	$22,283.10	$ 3,974.30
Central Virginia	2,004.55	4,840.23	6,260.56	584.22
Dabney S. Lancaster	1,795.15	7,811.85	6,951.60	2,655.40
Danville	2,994.10	10,629.44	13,623.54	-0-
Eastern Shore	224.46	6,150.50	6,374.96	-0-
Germanna	25,923.28	81,355.46	70,164.94	37,113.80
J. Sargeant Reynolds	-0-	5,672.42	5,672.42	-0-
John Tyler	3,679.50	27,453.28	27,605.65	3,527.13
Lord Fairfax	3,543.08	9,323.70	8,080.95	4,785.83
Mountain Empire	2,774.84	15,119.04	17.023.20	870.68
New River	7,698.74	13,451.82	18,425.20	2,725.36
Northern Virginia	69,075.09	176,354.21	179,991.62	65,437.68
Patrick Henry	4,676.66	31,378.99	27,501.97	8,553.68
Paul D. Camp	1,643.00	7,225.75	8,868.75	-0-
Piedmont Virginia	1,568.50	10,066.00	8,077.72	3,556.78
Rappahannock	2,160.07	23,056.62	21,337.71	3,878.98
Southside Virginia	781.21	10,352.54	10,105.11	1,028.64
Southwest Virginia	12.35	22,317.51	22,329.86	-0-
Tidewater	3,374.60	75,599.40	78,974.10	-0-
Thomas Nelson	9,260.00	46,311.79	55,571.79	-0-
Virginia Highlands	16,294.20	7,674.78	23,968.98	-0-
Virginia Western	11,853.51	34,113.87	33,028.98	12,938.40
Wytheville	1,252.13	6,626.87	6,653.72	1,225.28
Total	$173,588.24	$658,144.25	$678,876.33	$152,856.16

Source: Department of Community Colleges, Division of Administration and Finance.

determine appropriate public service offerings, guidelines for their operation, and procedures regarding course conversion.

Conclusion

The continuing education mission of most schools in VCCS has not yet matured enough to provide services to a large segment of it's residents. Some increase naturally results from aging, however, more effort will be necessary to begin to come close to the median service carried out by community colleges in other states. Rescheduling more popular classes for the large part-time student population and holding weekend classes may permit such an increase.

Additionally, greater flexibility in use of funds collected from public service programs should be developed--an action entirely consistent with the purposes

of the VCCS. Consideration should be given to exemption of public service revenues from requirements of Virginia *Code* section 2.1-180, and developing corresponding controls to insure proper use.

Finally, the general and continuing education function needs better definition--not only in terms of programs and participants, but also in terms of identification of continuing education students from the regular program enrollees. The services and needs of the former students must be recognized as different from the traditional college-transfer or vocational student to establish a viable adult education function.

SPECIAL TRAINING

The Division of Special Training has been referred to as the twenty-fourth community college since it carries out skill level instructional programs for new and expanding industries. In terms of this function, the division performs part of its mission well--judged from industry's viewpoint. However, there are several administrative deficiencies that detract from efficient and effective management including: Lack of policy supervision; unreliable records; erroneous reporting; and inadequate integration with the VCCS.

Operating guidelines and divisional management require careful attention by the department and the State Board. The General Assembly might also wish to review the appropriateness of this function within the VCCS.

IV. SPECIAL TRAINING FOR INDUSTRY

Virginia's push for increased industrialization in the 1960's brought with it the recognition that public incentives would be necessary for the State to become a serious competitor for industrial development. One program extensively used by North and South Carolina at that time was to provide state sponsored training that could be tailored to new and expanding industries. A similar commitment was made in 1965, when a Special Training Division was formed in the Department of Technical Education. In 1966, the division was transferred to the newly created Department of Community Colleges. The Special Training Division has two interrelated objectives: to provide training for new and expanding industries as an incentive to industrial development; and, to provide employment opportunities to State citizens through expanded skill training for specific jobs.

The training function of the division was not specifically mentioned in either the legislation which created the Department of Technical Education or the Department of Community Colleges. The statutes provided that all vocational and technical training should be carried out by the individual colleges and the Department of Community Colleges' *Policies, Procedures, and Regulations,* approved by the Board, cited special training programs as just one of seven programs offered by each individual college. In addition, the *State Curriculum Guide* published yearly, identifies special training programs as provided by the colleges.

The concept of a centralized staff for industry related training is found in a memorandum identified as, *State Board of Technical Education, Guidelines for Special Training Division* prepared in November, 1965, by H. W. Tulloch (see Appendix IV). Mr. Tulloch had been a member of the study commission which recommended the establishment of the Department of Technical Education, and a member of both the State Board for Technical Education and Community Colleges. The guidelines have not been approved by the State Board for Community Colleges, and are not referenced in other operating statements. Nevertheless, the special training function has developed as one of five major divisions of the department, operating centrally from Richmond with a field representative assigned in Portsmouth, Roanoke, and Waynesboro.

Staff for the division consists of 13 people--the director, 4 industrial coordinators, 3 permanent field instructors, 2 audio-visual technicians, and 3 secretaries. Expenditures by the Special Training Division between 1966-1974 total $4,535,521 as shown in Table 32.

During the course of the JLARC review, recognition of special training as a valued State service to industry became readily apparent. The industries contacted praised the division for its activities and several credited the program as having some part in their decision to locate in the State. The Office of Industrial Development gave its support to special training's contribution to continued industrial growth. The Department of Community Colleges reported in its 1973-74 Annual Report:

> *Since 1966, the division has trained nearly 50,000 Virginians for specific job opportunities with 278 expanding and new industries.*
>
> *This training costs the State an average of $75 per trainee. However, the return to the State averages $112 in State and local taxes paid by each trainee during the first year of employment.*

Table 32

FINANCING SPECIAL TRAINING
1966-1976 Biennium

	1966-68	1968-70	1970-72	1972-74	1974-76
Appropriations	$1,410,860	$1,464,890	$1,450,680	$1,831,340[a]	$1,368,845
Expenditures	$ 762,342	$1,071,572	$1,016,848	$1,534,760	$ 149,999[b]

[a]Includes $700,000 supplemental appropriations transfer from Department of Community College budget.

[b]Expenditure through October, 1974.

Source: Legislative Appropriations, and office of the Comptroller, "Statement of Expenditures", *Expenditures, Cumulative Refunds and Error Sheets,* June 1966-74.

Although the division has performed its training objectives effectively from industry's viewpoint, sufficient information is not available to assess its impact on citizens. Furthermore, data reported by the division concerning the number of persons trained, hired, employment status, earnings, and return to the State have not been accurately recorded and are unreliable. During the evaluation, JLARC found several operational shortcomings that hinder effective and efficient management. These include:

- Inadequate policy making and review;
- Unreliable records and erroneous or exaggerated reporting;
- Doubtful assumptions regarding public benefit from training; and,
- Failure to integrate training resources and opportunities throughout the community college system.

Divisional Operating Procedures

The training policies included in the appendices are the only guidelines governing the activities of the Division of Special Training. Even though the document is nearly a decade old and was prepared prior to the existence of the VCCS, evidence has not been found to indicate it has been reviewed, approved, or revised. Nonetheless, the division can point only to this memorandum as the basis for its training practices.

According to these policies, training programs may be held for new or expanding industries who plan to add at least 20 employees. Programs can be either pre-employment or on-the-job training. In pre-employment training, there is no obligation on the part of the trainee or the employer to accept or offer employment. A firm's plant is the desired location for training, however, State-owned space may be used. Instructors should be employees of the industry, although the division may furnish instructors if the industry cannot. Although policies are fairly specific in many instances, actual working practices are often very different.

For example:

Guideline Policy	Operating Practice
•The guide specifies a minimum of 20 trainees required in a particular skill area to establish a training program.	•*The division has reduced the number required to 18 trainees.*
•State funds are not to be used for leasing facilities.	•*The Comptroller reports show that State funds are regularly used for leasing training facilities and from 1966-1974, about $50,000 was spent for that purpose.*
•Training is not to be provided for normal turnover or for upgrading present employees.	•*Training is conducted for attrition and to upgrade employees. In fact, the largest single training program is predominately replacement-oriented.*
•Production materials used by trainees are to be provided by the employer whenever possible.	•*The division as a matter of procedure now pays for up to half of the materials used.*
•Special Training is directed to inform local political subdivisions in the area involved of arrangements made with local industry	•*The division does not regularly notify political subdivisions of training programs and, until recently, did not regularly notify community colleges of training being offered in regions.*
•Training is to be designed for basic skills and knowledge for specific jobs by industry provided instructors.	•*The division has extended the program to include training instructors and first-line supervisors.*

Admittedly, policy must have some flexibility to accomodate unusual circumstances and to reflect changing needs over time, but these departures have in several instances, redefined the function without benefit of formal policy review.

Industry Training Programs

In addition to differences found between policy and practice, JLARC discovered a number of discrepancies in data reported by the division compared to information provided by industry records. An initial meeting was held with the Division of Special Training in September, 1974, and it was reported that 48,000 persons had been trained for 280 industries. A request was made in October for details regarding the number of persons trained between 1966-1974 and the resulting report stated there had been a total of 44,378 trainees in 319 industry programs. The difference (3,622) was identified as trainees who had started programs, but had not completed, and programs included supervisory training activities. The division indicated it could not provide details by industry, programs held at a community college, or the extent of college participation. During campus visits, JLARC team members found a quarterly report prepared by the division

and sent to the college directors of continuing education which showed programs carried out in each community college region.

A telephone survey of industries regarding assessment of training disclosed there were errors between data in the special training report and business records. These initial discrepancies were reported to the Chancellor in a meeting in early November and, as a result, the Chancellor wrote JLARC:

> *I was especially concerned about the disparity in the information you seemed to be getting from the Special Training Division and/or the companies served by that division.*
>
> *There should be no disparity, and any deviation should be fully explainable.*[27]

Subsequently, JLARC requested a detailed record search and report including: a list of industries served, persons trained in each program, the number of trainees hired, and training cost by program. The resulting information showed that 45,563 trainees had been in various programs since 1966. Because the data from these three reports could not be adjusted to reconcile, JLARC surveyed each industry reported to have an active program between July and September, 1974.

Forty of 43 industries were contacted. (One company had closed and no active telephone listing could be found for the other two companies.) Several industries reported they had not been involved in a training program for several years. Absence of corresponding data from the division and verification problems eliminated six of the forty industries from the survey. Finally, data from 34 businesses were assembled for analysis. Six of the training programs are described in brief case studies to show the nature of training offered and each illustrates information differences. (Data for all programs is contained in Appendix IV.)

General Electric (Portsmouth). Since 1966, General Electric has grown from an employment of 8,000 to 17,000 people to become the second largest non-government employer in Virginia. The Portsmouth plant with 5,500 employees is a major manufacturing facility for television equipment and an ongoing preemployment training program prepares electronic (assembly line) workers. The program consists of a day and a half orientation session--plant tour, parts familiarization class, and assembly simulation. Assemblers are paid $3.24 hourly.

The General Electric program is special training's largest in terms of number of people trained. Of the total number of persons trained since 1966, 11,828 (26 percent) were trained for General Electric. There is no doubt that training is for normal attrition and replacement. Although nearly 12,000 assemblers have been trained for this one plant since it opened, only 3,000 of the 5,500 total plant complement are assemblers. Based on this figure alone, the division has trained nearly four times the number of persons needed.[28] Additionally, other criteria show that the training program is not consistent with the operating guidelines. For example:

- Of the 11,828 persons trained, an estimated 27-33% were summer employees, hired for three months.
- All applicants for assembler positions must complete the orientation program before they are eligible for employment.

- Among other duties for the division, a full-time field representative located in Tidewater Community College (adjacent to the plant), routinely serves as instructor for the program even though industry supplied instructors are stipulated in the policy guidelines.

The division justified its continued "bending the rules" because training costs are nominal ($1.53 each). However, if this were an actual representation of costs, the total expended would have been $18,097 ($1.53 x 11,828). Instead, a total of $172,185 has been spent since 1966--$14.56 per trainee--nearly ten times the amount reported. If training costs were applied only to the 3,000 employees necessary for a full staff, expenditures for training would be $57.40 per person.

General Electric has greatly benefited the Tidewater regional economy and provision of training was said to be a factor in their decision to locate their entire operation in Virginia. These facts are not disputed. However, during a discussion with Dr. Daniel Lewis, Chairman of the State Board for Community Colleges, he noted that special training programs were intended to terminate after initial industrial needs were met and that the board had not been made aware replacement training was being carried out.[29]

Imperial Reading (Lynchburg). Imperial Reading is a clothing manufacturer that has an on-the-job instructional program ranging from 6 to 18 weeks for sewing machine operators. Graduates are paid $2.00 per/hour with an incentive bonus based on volume production. The division reported training 348 operators and that all were hired. Technically, this is accurate, because all on-the-job trainees are already employed. However, not all trainees complete programs. Imperial Reading indicated that of the 344 persons that started training, 239 completed, and furthermore, only 94 remained employed six months or longer. Total training costs amounted to $16,648.14. The cost per person trained is $47.84 using the division's trainee data, but increases to $69.66 based on the number that completed the program. If training costs are calculated on the same basis the division uses to estimate return in public benefit (one full year's employment) the cost for permanent employees would exceed $177.

Passage Marine (Gwynn Island). Passage Marine is a small boat manufacturing company established in 1973 that expected to employ 25 people. Special training initially reported two training programs in various processes of boat building including fiberglass processing, carpentry, plumbing, welding and electrical work and a total of 70 trainees in both programs. After questioning the data, the division corrected the report to indicate there was one training program with 30 trainees and 24 persons hired. According to Passage Marine's records, only 15 persons had been trained and total company employment never exceeded a staff of twenty-two. At the time of the JLARC survey, company employment was down to seven people. Cost of training according to the division was $211.85 per trainee, but increases to $338.95 using industry records.

Brown Boveri (Chesterfield County) The Brown Boveri Corporation is based in Switzerland and has established a new plant in Virginia that will repair steam

turbine generators and manufacture some component parts. An on-the-job training program has just begun. The industry employs forty persons, but expects to reach 1,500. The special training program will instruct repair mechanics over a two-year period. Mechanics will earn $9,000-$10,000 initially. Each trainee will receive 320 hours of training at a ratio of four trainees to each instructor. Fifteen mechanics are expected to be trained by April, 1975.

The first phase of the program was to send eight Brown Boveri employees to Switzerland for a year to learn in-plant operations. These employees will serve as instructors and be reimbursed by the division up to $7.00 per hour. The practice of contributing to the cost of training instructors resulted in the division paying for one half of the trainees food and hotel charges and their return trip from Switzerland. Special Training reported that 18 persons had been trained at a cost of $12,018.35, however this cost is only attributable to the 8 persons sent to Switzerland. Although Brown Boveri has indicated to the division that 10 additional persons have been trained by the 8 employees who returned from Switzerland, no reimbursements have been made for their training. Thus the cost per person send to Switzerland is $1,502.29.

Virginia Metal Products (Brookneal). Virginia Metal Products manufactures movable steel wall partitions at a new plant in the Commonwealth. The plant employs 45 people, but expects to grow to about 250. The special training program involved preemployment orientation for 65 potential employees from June through October, 1974. However, because of construction delays, only six were hired. Additional employees are expected to be added during 1975.[30] The delay between training and employment makes it questionable that most of the trainees will be available for employment some three to eight months later.

The division reported 86 persons trained, 35 hired and cost per trainee of $146.16. Industry records show 65 trained, six hired, and calculated training costs would be $193.38 per trainee or $2,094. per employee.

Volvo (Chesapeake). A major training program is just getting underway for Volvo--a Swedish automobile manufacturer. An initial orientation program is being offered at the Chesapeake campus of Tidewater Community College to acquaint Swedish nationals with American customs, tax structures and way of life.

Plans for the second phase of the program involve selecting supervisors through a divisional assessment center who will be sent to Sweden for additional in-plant instruction. The Division of Special Training has agreed to pay for a portion of the cost of trainee lodging and transportation to and from Sweden. The supervisors will serve as instructors for the third training phase.

The third and final phase will involve training an estimated 3,000 assembly line workers. The training will be held in a warehouse using a simulated assembly line. During the next five years, Volvo is expected to become a major industry in the Tidewater area.

Data Errors Regarding Cost

Each industry described above undoubtedly contributes to the Commonwealth's well-being and economic health. If training is useful in relocation or expansion

efforts and benefits and Commonwealth, it should be carried out. But, the public record must accurately report results. The informational inaccuracies misrepresent both cost and benefit so much that an assessment of its value cannot be determined.

Analysis of information contained in the appendix demonstrates the effect of inaccurate recordkeeping. In eleven of 34 industries, the number reported trained and hired by the division corresponded to that reported by industry. Three industries reported more persons hired than reported by the division. In a majority of cases, 20 of 34, the discrepancies between State and industry records in the number trained and hired, ranged from a low of four to a high of 137. Assuming the error has been constant over the years, the way in which training reports can be erroneous is shown in Tables 33 and 34 by projecting the net error rate to the totals.

Table 33

DIFFERENCE IN RECORDS
(Special Training Compared to Industry)
1966-74

Category	Special Training	Industry	Difference
Number Trained	45,563	43,740	1,823
Number Hired	43,030	41,309	1,721
Cost/Trainee	$ 99	$ 104	$ 5
Cost/Hired	$ 105	$ 110	$ 5

Source: Calculated by JLARC from Appendix IV.

The extent of error could be even higher. Excluding the General Electric Training program (the division's largest) which used the division's numbers, net error for number of persons trained and hired could be as high as 14% and 15% respectively for all other industries. Thus, the same base information might be calculated as follows:

Table 34

DIFFERENCE IN RECORDS EXCLUDING GENERAL ELECTRIC
(Special Training Compared to Industry)
1966-74

Category	Special Training	Industry	Difference
Number Trained	33,735	29,012	4,723
Number Hired	32,419	27,556	4,863
Cost/Trainee	$ 129	$ 150	$ 21
Cost/Hired	$ 135	$ 158	$ 23

Source: Calculated by JLARC from Appendix IV.

Data Errors for Benefits

The department emphasizes that trainees return more to the State in the form of taxes than is spent on training. But, the assumptions used to estimate return can not be validated. The division calculates return using the following:

- An average wage per hour is determined ($2.50 in 1973).
- Trainees are assumed to be married with one child and file a joint tax return ($42 in State tax for 1973).
- 45% of income is estimated as spent on goods which produce sales tax ($70 sales tax in 1973).
- 50% of all trainees are assumed to have been unemployed prior to training.

There are numerous problems with this type of calculation. First, the division estimates return based on trainees--not on the actual number employed. Second, the results assume all trainees (employees) remain in their jobs for a full year. Third, the estimated return to the State does not reflect the difference in earnings resulting from training compared to possible earnings without training. Finally, all the data errors already detailed are included in the base. Thus, special training would show a return for the Imperial Reading program of $19,488 compared to an assessment based on the follow-up data available of $10,528 ($8,960 or 54% less). And, similarly, calculating return for the Passage Marine program would show that about $1,500 was returned from a $5,084 program, less than one-third of the cost. However, calculations for only those trainees who are still employed would produce less than $700 return to the State or 15% of the cost of the program. Considering that a third of all General Electric trainees are only hired for three months would reduce the return substantially more. Since the division has not carried out a follow-up on employment status, total return cannot be determined.

Supervisory Training Programs

When the special training division was established, there were only a few technical institutes operating. Even as VCCS grew and institutions were built, the continuing education function usually lagged behind the development of regular curricula. Recognizing a need for industrial training other than for new and expanding industries, the State Board established "an Auxiliary Committee for Special Training" in 1967. This committee was to work with the department to promote, coordinate, and supervise all special non-degree credit and non-credit programs requested by business, industry and professions for employee upgrading and self-development. The auxiliary programs were to be a part of community service programs for VCCS and were designed to supplement, but not to replace, regular adult education. Courses were to be taught at colleges using existing faculty wherever feasible.

The State Board specified that the auxiliary committee would work in conjunction with a locally designated college official responsible for occupational and technical programs. Requests for auxiliary programs and special assistance were to be channeled through the division with a committee review and approval. The auxiliary committee functioned for only one year. After 1967, although the specification for the committee continued to appear in the *State Curriculum Guide* until 1974, the division accepted and approved requests for training with no

higher authority involved.

Unlike other programs conducted by the division, industries were charged for auxiliary training. Special training taught supervisory and employee development programs (i.e. remedial mathematics, communications) under the auspices of "auxiliary" training through 1974. During that period, 2,100 persons were trained for 77 industries and $41,052.55 was received in reimbursements. In 1973, it was decided that the division was competing with community colleges. To eliminate competition, a memorandum issued by the Chancellor directed that all programs conducted by the division which were funded by industry or business be handled through the office of continuing education of the regional community college. As a result, special training's provision for auxiliary training was omitted from the 1974 curriculum guide.

Although the division must now conduct "auxiliary" programs through the community colleges' continuing education office, nothing else regarding the operation of the program has changed except that schools are apparently notified it takes place. The colleges have become no more involved in the programs. For example, one major "auxiliary" program which the division plans to offer is a management development training program sponsored by Kepnor-Tregoe, Inc., Princeton, New Jersey. Special training will establish programs, and invite area industries to attend. Instructional classes will be held in a motel rather than at a college or industrial plant.

This management development offering is unique to the community college system and warrants further discussion. Kepnor-Tregoe, Inc. is a private business that franchises one method of instructing management development training. Three program levels are available, one of which is entitled "Apex", designed for upper-level managers. One training coordinator has been certified to teach this program (October, 1974). Certification licensing costs $4,000 and includes an agreement to train 100 persons annually using Kepnor-Tregoe's $135 individual training packages. The division purchased the required $13,500 in training materials at the time of certification.

The division reports that one industry has expressed interest in training and another has made an inquiry. Participants will be charged $350 to cover the cost of the training packet, the instructor's salary, and associated food, lodging, and travel.

Involvement in this type of program appears to conflict with the division's operating guidelines, and the Chancellor's memorandum; it also potentially competes with the instructional responsibilities of each of the 23 community colleges as well as with four-year schools.

Relationships with Community Colleges

The objectives of special training require that it serve two different State organizations--the Division of Industrial Development and the Department of Community Colleges. On one hand, the division is charged to provide inducements for industrial expansion, and, on the other, to link regional industries and community colleges. The division has been far more successful in maintaining relationships with the industrial development division than with the colleges.

Although the training function has been a part of the department since

its beginning and is often referred to as the 24th community college, it actually is quite different from the other 23 schools. The division was unable to identify training programs which had been held at a college or had been conducted by a college faculty member. We have estimated that less than 20% of all programs have been held on a community college campus. Participation by the colleges varies widely. Virginia Western has conducted more industrial training programs than any other community college, but it was fully operational as a technical college when training began. Ten of the nineteen training programs held in the Roanoke area have used Virginia Western facilities and faculty.

Not only has the school participated in programs, it has also actively responded to industries after training was finished and developed certificate programs based on industrial needs. The list below shows the training held at the college and the resulting certificate programs.

Industries	Type Training	Held On Campus	Held Off Campus
	Certificate Programs Established		
Ingersoll Rand	Machinists	X	X
Various Air Cond. & Refr. Industries	Heating & AC Mechanics	X	
	All Other Programs		
Mohawk Rubber	Maintenance Operators	X	X
S. W. Mechanical Contractors	Plumbers, Pipefitters	X	X
Atlantic Mutual Insurance	Clerical	X	
Universal Comm.	Electronic Assembler, Supervisors	X	
Appliance Serv. Industries	Repairman	X	
Hayes, Seay, Mattern & Mattern	Arch. Drft.	X	
Regional Metals Industries	Seminar (NC Machining)	X	
Jobs '70	Sewage Disposal Operators	X	

In marked contrast, Southside Virginia and Blue Ridge have had little contact with the division even though a total of 24 programs have been held in their respective areas. The potential benefits of integrating training needs and college resources are many. For example, simply through better communication and involvement the interaction of the two programs could:

- lead to development of appropriate certificate and diploma courses required by industry;
- through closer working relationships aid the colleges in assessment of other curricular needs and program planning;
- provide job and job training opportunities for students who decide not to continue formal training (15% of all students surveyed by JLARC during the spring quarter, 1974, who

indicated they terminated their educational programs did so in favor of seeking employment). Many of the special training programs appear to offer desirable jobs;

- contribute to full utilization of facilities and staffs at community colleges:

- acquaint new or expanding industries with both special training opportunities and services of the college.

In addition to a requirement in the Chancellor's memorandum of December, 1973, that the director of special training send quarterly reports to directors of continuing education, regular meetings should be required. When the division meets with a new industry to discuss training programs, the director of continuing education should also participate if only to acquaint the industry with the college.

Relationship with the Division of Industrial Development

Although organizationally and physically located within the VCCS, special training actually has a much closer working relationship with the Division of Industrial Development since both agency responsibilities complement each other to encourage new industries to locate in Virginia. Industrial Development considers industry-tailored training an essential asset in their recruitment portfolio and reports that about 85% of the State's new and expanding industries contacted consider a training program. Reorganization of special training as a function of the Division of Industrial Development might have merit.

- Working practices--referrals, selection of training to be offered, industrial salesmanship--already operate as though training is a component part of the industrial division.

- Since industry relocation is a sensitive process in many cases, training could be brought in at an earlier stage without fear of lost confidentiality.

- Industrial Development Division, the responsible agency for establishing industry priorities, could determine when the training function is necessary as an inducement and protect limited financial resources better than VCCS.

- As part of the development organization and a participant in program planning, the training division could more accurately predict its budget needs; and, conversely, if unanticipated budget needs evolve, development rather than educational funds would be considered as the first possible source.

- The Division of Industrial Development is a more appropriate agency to determine when training inducement needs have been met than is the Department of Community Colleges.

It is important to note that the Division of the Budget assigns a separate line item for funding special training, the only distinction made in the Department of Community College's $7 million appropriation. Placing a division in VCCS whose

primary function is industrial development, tends to obscure the amount of State funds devoted to this activity. By transferring special training to the Division of Industrial Development, the State would be better able to assess the full amount spent.

Conclusion

The VCCS has not exercised appropriate policy supervision of the Special Training Division activities. Definitive program objectives have not been established and the only policy guidelines prepared date to 1965 when the division was a part of the Department of Technical Education. No evidence can be shown that the guidelines have ever been approved, reviewed, or updated to reflect current practices. In several important areas, the division does not comply with specific instructions of the department. The Auxiliary Committee, established by the State Board to receive, review, and approve auxiliary training programs, has not been used since 1967. Moreover, a directive that all reimbursable training programs be carried out by community colleges in their continuing education programs, is at best only given nominal recognition--at worst, ignored.

Lack of supervision has resulted in unintended training for attrition, competition for reimbursable training, and erroneous reporting of information to the VCCS and the General Assembly. Finally, the purpose served by the division has, in some instances, been changed from enhancing industrial development for the Commonwealth to catering to industrial clientele.

The requirement to maintain permanent field representatives at Portsmouth, Roanoke, and Waynesboro does not seem to be an efficient use of personnel. Since industrial development has state-wide scope and 23 regional colleges have now been established, centralization of training staff in Richmond could provide more effective utilization. To achieve improved management efficiency, several actions need to be taken.

First, consideration should be given to the most appropriate organization of the division. If its principal function is for industrial expansion, it should probably be transferred to the Division of Industrial Development. Short of organizational realignment, its objectives and operating policies require formal review and approval by the State Board.

Second, division programs should be restricted to training for new or expanding industries and to introducing educational opportunities available at the community colleges. Routine preemployment training for attrition and replacement should be stopped.

Third, the division's recordkeeping system must be overhauled and improved to accurately reflect information about its operations that can be used to assess its effectiveness and value to the Commonwealth. In addition to existing information, an accurate report on programs should contain:

- Data on number of trainees hired and employment status at regular intervals after training (at least for the first six months and year).

- Accurate cost and benefit information should be prepared for each program based on numbers hired and retained, not

trainees. This information should not be used simply to justify training programs but to plan priorities for use of available dollars based on the most economical and effective expenditures. Decisions whether to provide training or not should be made by assessment of the advantages or need for industrial incentives to attract new or encourage expanding businesses.

- Documentation of decisions made in regard to program approvals that deviate from board policy.

Fourth, regional field offices should be eliminated or accommodated on an "as needed" basis at one of the existing colleges. Management development and other reimbursable training should be restricted to the community college except in unusual or specific cases which should be authorized by the State Board. Full integration of special training with VCCS, to the extent possible, should be encouraged.

Finally, since there have been many observed discrepancies between policy guidelines and program information, the JLARC feels that a fiscal audit of division expenditures needs to be made to insure funds have been spent in accordance with State policies and that appropriate reporting procedures are available to accurately reflect program costs.

MANAGEMENT

The VCCS management team displayed admirable capabilities by promoting, planning, organizing, and building a system of twenty-three community colleges in six short years. Unfortunately, attention to some day-to-day management issues was neglected during the building phase. As a result, departmental management has not kept pace with the physical growth of the system. Central controls have been relaxed allowing the colleges to become more and more independent of the system. Today, the VCCS is faced with inadequate long-range plans, a data management system in the very early stages of development, and the need to strengthen its research, planning and enrollment forecasting capability. Prompt attention to each of these important areas is required to insure the VCCS provides the Commonwealth with the kind of effective and economical educational opportunities mandated by the General Assembly.

V. MANAGEMENT OF THE COMMUNITY COLLEGE SYSTEM

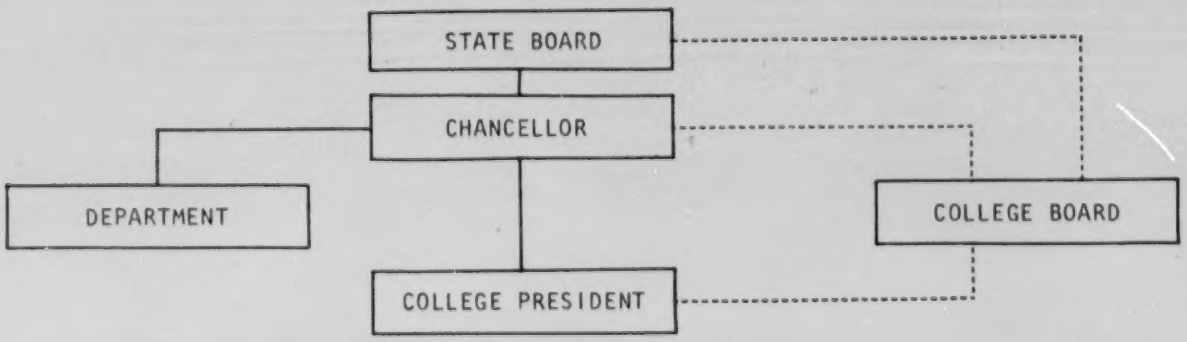
Management of the community college system consists of the efficient and effective utilization of human and physical resources to achieve institutional goals and objectives. System accomplishments are the prime measures of effective management, and previous sections explore the extent to which the VCCS educational objectives have been carried out. This section treats management effectiveness from a functional perspective by reviewing key elements of system-wide (departmental) and institutional (community college) administrative responsibility. These include:

- Departmental and college planning and research;
- Management information systems;
- Curriculum review and control;
- Enrollment forecasting for budgeting;
- Facility utilization; and
- Faculty workload and academic management.

Policy-making for the VCCS rests with the State Board since the General Assembly specifically mandated it to plan, establish and administer the system. The board consists of 15 members appointed to four-year terms by the Governor. (Members may be reappointed for one additional term). The board appoints the Chancellor who is the chief administrative officer of the Department of Community Colleges, and is responsible for implementing policies and day-to-day system administration. The department provides staff support to the Chancellor and State Board under the immediate supervision of the Vice Chancellor. (An overview of departmental organization is included below).

At the institutional level, the college president is responsible for daily administration, supervision and institutional decision-making, supported by "local boards" that act in an advisory capacity. The local boards are composed of nine to fifteen members appointed for a period of four years, representing each political subdivision in the college region. The interrelationship between the State and local administration is illustrated below in the following diagram.

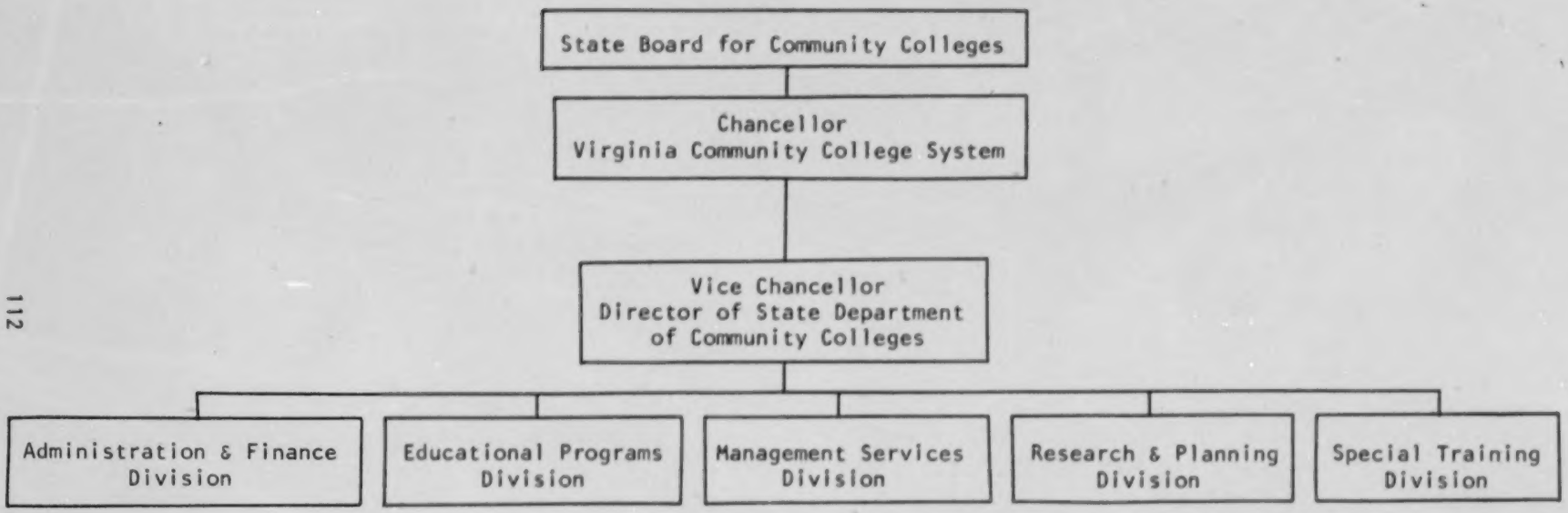
VCCS MANAGEMENT RELATIONSHIPS



Department of Community Colleges. The department is organized into the five functional divisions shown on Figure 21. There are 150 staff positions --

Figure 21

VIRGINIA DEPARTMENT OF COMMUNITY COLLEGES
ORGANIZATION CHART



Source: Department of Community Colleges.

72 professional and 78 secretarial and support -- 13 positions were reported vacant in December, 1974. According to the Chancellor, about 25 positions, mainly in the administrative and finance division, will be eliminated when new computer assisted operations are fully implemented. The positions have not yet been identified, nor has a decision been made whether release will be through normal attrition, conversion to new titles, or absorption in additional jobs that may be requested. Identification should be made as soon as possible to permit orderly transfer of duties and to avoid personal hardship for affected staff.

Total appropriations, excluding the Division of Special Training already discussed and teachers salary adjustments, are $3,880,105 for the 1974-76 biennium. Departmental administrative costs increased slowly during the VCCS developmental phase but have grown rapidly during the past several years as shown below. Much of the increase can be attributed to costs associated with an expanded computer information system.

DEPARTMENTAL APPROPRIATIONS AND EXPENDITURES

Year	Appropriations	Expenditures[a]	% Increase
1970-71	$ 1,305,270	$ 1,360,344	--%
1971-72	$ 1,341,805	$ 1,564,299	13
1972-73	$ 1,667,925	$ 1,516,912	(3)
1973-74	$ 1,739,745	$ 2,349,240	55
1974-75	$ 1,859,410	--	--
1975-76	$ 2,020,695	--	--

[a]Includes Appropriations Transfer.

Source: (appropriations) Appropriation Acts, (expenditures)Department of Community Colleges Financial Statements for years shown.

Any evaluation of management must take into account the present stage of development. Since 1966, VCCS has progressed through an organizational planning and building phase which culminated with the opening of J. Sargeant Reynolds in the fall of 1972. Since the VCCS is now an established and relatively mature organization, management attention has begun to focus on ways of increasing effectiveness through more economical and efficient operations. In this regard, both the department and the colleges must bear a responsibility coordinate with resources, need and authority. The way in which each of the component parts of the VCCS impact on functional management elements is detailed where appropriate.

Departmental and College Planning and Research

Planning is essential to insure that all elements in an organization maintain a coordinated sense of direction and unity of purpose. The higher the management level, the more critical planning becomes to coordination; and, with the size and complexity of the VCCS substantial priority must be given to long-range system-wide planning.

The original State master plan for the VCCS was prepared in 1966 by Dr. Eric Rhodes, a consultant to the department, supported by the staff of the Education Services Bureau, Inc., located in Arlington, Virginia. The plan included:

- Proposed location and area to be served for 22 colleges;
- A timetable for opening each college;
- Initial enrollment projections for each college;
- Recommended course offerings for each college; and,
- A proposed administrative organization for both the department and colleges.

The master plan was intended to be fully implemented in a maximum of five years by adding an average of three colleges annually. The new schools, added to those existing and already under development, would have provided 22 colleges by September, 1971 (some with multiple campuses). A total of 20 colleges were operational at the beginning of the fall term in 1971. Three more were added by 1972, bringing the grand total to 23 colleges with 32 separate campuses. The one additional college resulted from establishing two separate schools (Danville and Patrick Henry) in the Danville-Martinsville-South Boston area, instead of one multi-campus college. Even though the master plan and subsequent site location recommendations prepared by the consultant were used to guide development, the master plan has not been updated to reflect system objectives and future operational characteristics such as curriculum, enrollment, facilities or financial requirements. Thus, the VCCS now exists without a state-wide plan of operation. The department reported that planning on a system-wide basis is not essential since all colleges are operational and each school has been asked to prepare an "Educational Master Plan"; and, while the format and content of local plans might vary, they are generally intended to address estimated enrollment, curriculum and space requirements up to ten years in the future.[31]

Although the board requires a master plan from each school, after their third year of operation, the department has not received plans from 8 colleges that are more than three years old. Of the 13 plans available, all but one are based on information more than five years old. Only the Annandale campus of Northern Virginia has been updated as shown below. Plans that have been prepared, and reviewed by JLARC, were found to be based on information contained in the original State Master Plan (now outdated) and financial requirement projections are consistently ignored.

Regardless of whether institution plans are thorough or current, their validity must be questioned since they have been developed without benefit of a current state-wide plan. Effective planning at the college level can only be accomplished when integrated into a system design which includes:

- VCCS long-term goals and short-term objectives;
- Forecasts of the educational needs of the students, the region and the State, in terms of the community college mission and the public interest;
- Academic plans for each school consistent with the educational needs to be satisfied;
- Physical expansion and specific capital construction needs;

INSTITUTIONAL PLANS RECEIVED BY DEPARTMENT

Community College	Date of Plan
Blue Ridge	1969
Central Virginia	1970
Dabney S. Lancaster	1970
Danville	1969
John Tyler	1969
Northern Virginia	1970 (Annandale Campus updated 1974)
Piedmont Virginia	1974
Southwest Virginia	1968
Thomas Nelson	1971
Tidewater	1970
Virginia Highlands	1972
Virginia Western	1970
Wytheville	1969

Source: Memorandum from Dr. S. A. Burnette (VCCS) to Billy J. Kittrell (JLARC), February 10, 1975, subject: Educational Master Plans, Virginia Community Colleges.

- Financial plans which include both operating expenses and capital outlay requirements;
- Major equipment needs;
- Alternative arrangements to accomplish each stated element; and,
- Systematic procedures for periodic review and revision as required.

If the coordinated system of community colleges intended by the General Assembly is to be maintained, the department and the State Board must document how VCCS is intended to operate. Absence of VCCS planning can only lead to 23 autonomous institutions, tailored to local self-interests, without regard for system policies, priorities, and need.

The colleges should equally be required to prepare current plans that relate state-wide interests to regional needs and aspirations. Moreover, each plan should be reviewed by the State Board, and approved or modified to conform with intended system growth.

Departmental Planning Assistance. Institutional research can be performed on several interrelated levels and it is closely linked with planning (as well as the evaluative) function of management. One purpose of institutional research is to develop relevant data for descriptive or analytical studies of the various components of an institution. Descriptive studies for community colleges assemble, for example, information about the characteristics of the student body, faculty, educational programs, services and facilities, all of which may contribute to understanding the positive or negative effects of current policies, programs and procedures. Analysis provides the basis for goal refinement and future planning to more effectively utilize resources and increase effectiveness.

Controlled research may also be used to test proposed innovations in a limited environment, maximizing the success of full scale innovations and minimizing costly errors.

The State master plan called for the VCCS to have adequate equipment and staff to conduct appropriate research studies for all community colleges and to serve the research needs of the department. When fully implemented, the proposed research and development division was thought to need a director and three assistant directors responsible for: facilities planning; a curriculum laboratory to develop teaching materials; and a computer assisted research and evaluation office. The research function has not, however, developed in this way, nor does it appear to have a high priority in the department at the present time. There is a Division of Research and Planning, headed by a director with a staff that consists of a statistician, research coordinator, and half-time research associate. Requests for additional staff have not been approved. The computer function has been organized as an independent Division of Management Services with its own director.

Both the research and management services division have highly professional staffs. However, the department still does not have a sufficient staff to conduct studies for individual colleges or to serve as a VCCS technical resource. Most of the data generated by the departmental research division is descriptive, and is usually produced for reports to the Chancellor, State Board, other State agencies, and the U.S. Office of Education. The division estimates that supplying data to outside sources consumes the equivalent of one full-time professional--a full third of available staff. Despite limited resources, the division has completed or is preparing several sophisticated and commendable projects including: (1) a student data form to gather student profile information from all colleges; (2) a major follow-up study of occupational-technical students from 1966-1969 (portions of the draft results are utilized in this report); and, (3) collection of family income data to justify the department's need for financial aid.

College Planning Assistance. Individual colleges do not undertake much institutional research except as apparent need arises. Generally most colleges, except Northern Virginia, do not employ institutional research specialists, and where they do, duties are often limited to budgeting, the self-study phase of the accreditation process, or production of day-to-day management data. Northern Virginia now has the most extensive institutional research capability in the VCCS, with a staff of four -- larger than the department's.

The status of institutional research in most of the remaining community colleges can best be described as developmental. Very little basic research has been produced in a form usable for management or planning and an understanding of the fundamental purpose of research appears lacking throughout the system. The JLARC faculty survey found that although college teachers and administrators ranked planning high, institutional research, that would be necessary to support planning, was ranked low. The ranking disparity between the two activities is shown below.

It is interesting to note that 60% of the teachers ranked planning "very important" but only 15% ranked institutional research "very important." The difference is even more striking among the administrators: 75% ranked planning

IMPORTANCE OF INSTITUTIONAL RESEARCH
(Percent of Respondents)

	Very Important				Not Important
	1	2	3	4	5
Teachers	14.9	19.6	28.2	18.7	18.6
Administrators	8.6	32.8	33.6	20.8	4.2

IMPORTANCE OF PLANNING

	Very Important				Not Important
	1	2	3	4	5
Teachers	60.4	27.8	10.5	1.3	0.0
Administrators	74.8	22.1	3.1	0.0	0.0

Source: JLARC Faculty Survey, November, 1974.

very important, but only 9% ranked institutional research equally.

Communication of research projects between colleges has until recently been informal. The department published an annotated bibliography for the first time in 1974 which includes experimental designs, descriptive studies, routine management reports and evaluation of several innovative educational projects. The colleges appeared to generate primarily descriptive reports, concerned with student profiles and graduate follow-up on a limited basis. In campus interviews, administrators expressed a growing awareness that more analytical information was needed to plan for future development.

All colleges are now operational and the management information system (discussed in this section) now being developed by the department will generate data that could be the basis for extensive analysis and planning further VCCS development. Nonetheless, the department should either provide adequate staff for the division of research and development consistent with its responsibilities in a mature system, or insulate it from the reporting function which consumes most of its time. Efforts should also be made to increase the community colleges' awareness of the implicit interrelationship of planning and research and the importance of both to successful implementation, assessment and revision of institutional goals.

Need for Management Information

The size and complexity of the VCCS requires a comprehensive, integrated and automated information system for effective planning, coordination and performance evaluation. Unfortunately, development of such a system has not kept pace with either growth or increasing demands for information. As a result, several colleges developed their own system including considerable investments in computer hardware.

A management consulting firm engaged to design a new management information system described VCCS data management environment in late 1972 in the following manner.

"The history of data processing at the Virginia Community College System is not unlike many large, fast growing organizations and

agencies. Early developmental efforts centered on implementing applications on a singular basis, i.e., systems designed in response to a particular isolated problem or systems operating to service a parochial purpose. There was little integration of systems design effort. The system design efforts of the computer centers of the Department and Northern Virginia Community College have progressed rapidly over the years but with little attention given to coordinating these efforts for the benefit of the entire Virginia Community College System. In adopting this 'go it alone' philosophy of operation, the institutions with computer capability have expended large sums of time and money to develop systems that are presently of little value to key administrators and operational personnel. The result has been the proliferation of computer equipment that are ill fitted for the data processing needs of the Virginia Community College System and increased reliance on manual recordkeeping systems. More importantly, expanded clerical staffs have been required to keep pace with the burgeoning administrative workload. These conditions have had a deleterious effect on the efficiency of computer support to the instructional process, as well as to top management. The lack of timely information has affected the decision-making process in that key administrative personnel have been preoccupied with reacting to informational 'fire drills,' prohibiting any real attention to systematic planning and monitoring against established plans.

Interestingly, there is a growing disenchantment with the computer as a management tool throughout the Virginia Community College System. Top executive management has not benefited substantially from the investment in computer resources. There is a feeling among middle managers that they are 'serving' rather than being served by the computer. Ill-coordinated planning efforts at the state, departmental and institutional level have further inhibited system design efforts. Computer acquisition plans of individual institutions conflicted, and in some instances, ignored meaningful cost data, equipment capacities and so on."[32]

The consultant recommended:

- *Organizational Changes* -- to provide a more centralized data processing operation by establishing a management information center in the department to provide information needed to support top level management decision-making.

- *More Sophisticated Computer Hardware* -- a time-sharing computer configuration consisting of a powerful computer located at Richmond with a variety of terminals at the colleges.

- *A System Design* -- incorporating some of the applications already developed by the department and colleges.

The department and State Board appear to have now recognized the need to shift emphasis from building a system to managing it. In early 1973, the department and the State Board approved the consultant's recommendations in principle and authorized a time-phased plan for implementation. Later that year

an IBM 370-145 computer was installed at Richmond and the department's computer staff was enlarged from 16 to 25 to form the Management Services Division.

The VCCS Plan

The VCCS plan implementing the consultant's recommendations calls for two major data systems -- administrative and financial, and academic. Their design is based on an "integrated systems" concept. That is, the interrelationships of functional areas at each college and between colleges is recognized. Common data will be stored in master files and merged, matched, compared or tabulated in relation to the data in any area as needed. Each major system will contain a number of sub-systems or functional areas including reporting systems for: processing applicants for admission; accounting and budgeting; personnel data; and other functional applications. A total of 21 sub-systems will be established. The VCCS schedule for implementation and progress against that schedule is provided in Figure 22.

Status of Implementation

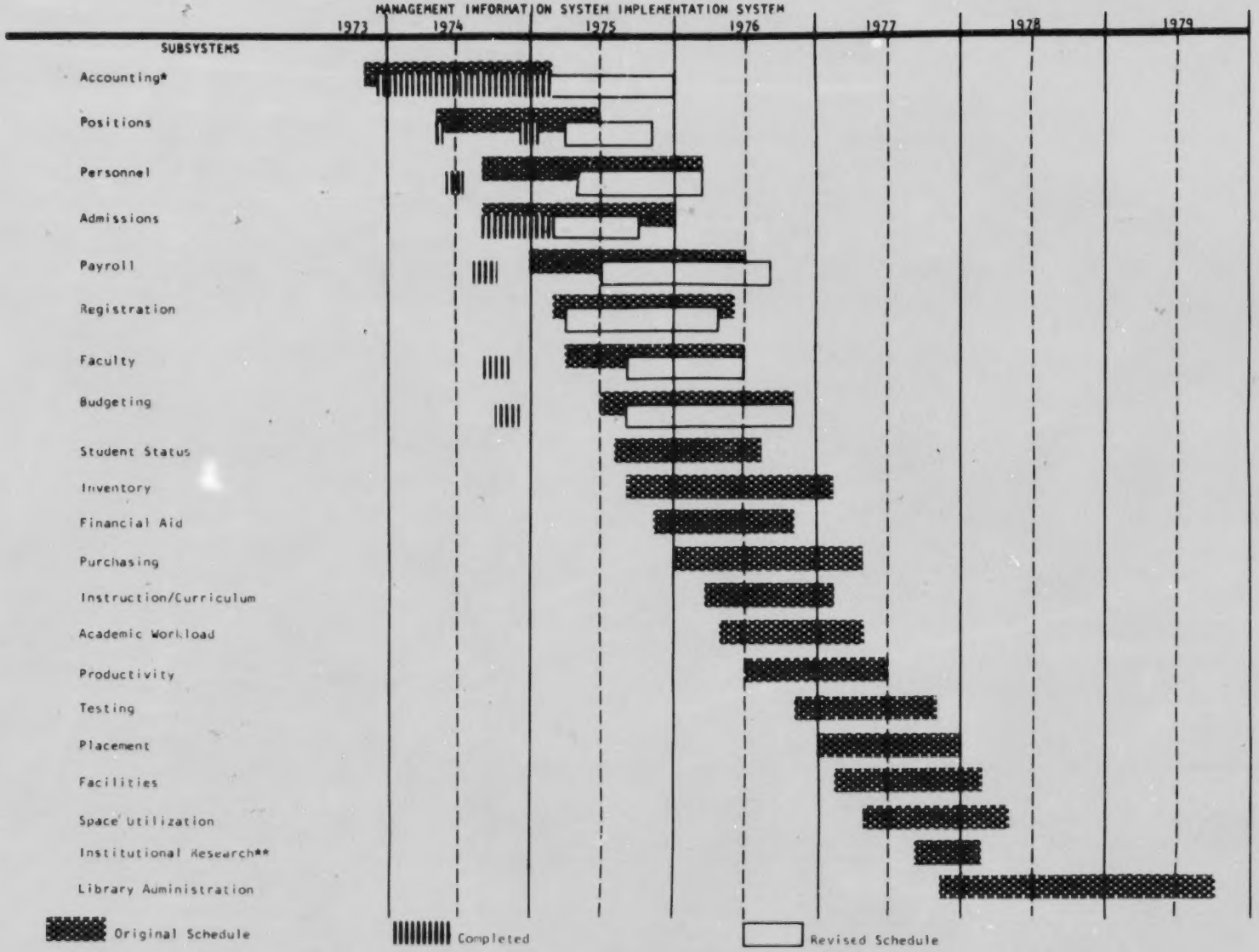
The VCCS schedule provides for implementation of all sub-systems by late 1979. Work on the first system (accounting) began in late 1973 and was scheduled for completion in early 1975. This date has now slipped to late 1975. The director of management services reports that the delay is caused by the additional time being devoted to development of programs for accounting that can be used for all other sub-systems (e.g. generalized search routine); and, although the time schedule for accounting has slipped, the result has been that other systems are now ahead of schedule. In any event, it appears that efforts should be made to compress the schedule. By 1979, the VCCS system will have operated for thirteen years without a comprehensive management information system. JLARC recognizes that an operation of this magnitude cannot be developed and implemented overnight and a part of the system is now in place. However, the longer the delay, the longer the Commonwealth must wait to receive the benefits of what is a substantial investment.

Funding

The budgets for the department and colleges do not specifically identify the amount budgeted for management information systems. The Division of the Budget states that electronic data processing is considered a service activity of the department, and as such funds for its operation are contained in each school's budget. The department reports that 1974-75 budgets contain approximately $1,100,000 to fund the Management Information System. Of this amount, about $400,000 is budgeted for the department and the remainder is spread among the 23 colleges. JLARC staff was unable to identify any fund at any school that campus administrators reserved or intended to be used for MIS purposes.

During the course of this evaluation, JLARC also received a request from the department to establish a working capital revolving fund in the amount of $500,000 to establish a revolving account that would permit rebilling MIS expenses to the department and colleges for services rendered. The department's

Figure 22



*Includes Generalized Programs for use in all subsystems.
**Appropriate Institutional Research Functions included in preceeding subsystems.

Source: Department of Community Colleges, Management Services Division.

justification centered on the desire to allocate the cost to using colleges and agencies, instead of creating an inflated budget by charging all computer service costs to the department administration account.

JLARC has carefully considered this request and concludes that a more desirable alternative would be to recommend appropriation of the funds for the MIS standard requirements as a separate line item in the department's budget. This conclusion is based on the following reasons:

- Administrative costs associated with billing and accounting for revolving fund transactions would be avoided;
- System costs are generally fixed, that is, not directly related to the number or size of the colleges;
- Total cost of the system would be easily identified; and,
- Non-standard costs generated by the colleges could be recovered by regular interdepartmental transfer of funds.

In any event, the primary use of an MIS program is to enhance State level information and review and college uses are secondary.

Despite the realization of a need to strengthen administrative management and control of the system, a strong sense of direction to achieve this objective was not evident during our review. While the Board Chairman, Chancellor, Vice Chancellor, and several college presidents voiced the opinion that more management information was needed, the uses of this information to manage more efficiently have not been clearly identified. Unfortunately, the best designed data management system will not result in automatic decisions. The Board, Department of Community Colleges, Council of Higher Education and each college must clearly identify key management indicators to permit the MIS to provide necessary data in the most usable format.

One example of the failure to identify data use can be demonstrated by JLARC's request for a faculty workload analysis. The department was unable to produce usable information by merging existing faculty payroll files with existing class registration files. These two existing administrative information systems could easily be converted to provide evaluative data useful for efficient, effective and economical system management.

Curriculum Management

A coordinated system of state-wide post-secondary technical and general education also requires effective curriculum planning. The guiding principle expressed in the legislation regarding curriculum management was that there be excellence in curricula tailored to regional needs and controls maintained to avoid course and program proliferation. Curriculum management takes place at several levels within the system and may involve college administrators and faculty, departmental staff, local and State curriculum advisory committees, local boards and the State Board.

The department publishes an annual *State Curriculum Guide* listing each program, degree and course approved for the system. This provides for standardized course numbering and consistency in course format. Until 1972, the *Guide* listed each course required for each degree program. It now contains only the types and

the number of courses required for each curriculum. Each curricular specialty has three instructional "cores" including a general core, a specialized core, and a degree core.

The six Associate in Applied Science Degree programs are designed primarily to provide occupational competence for employment but may be modified by the college to provide transfer acceptability by four-year colleges and universities. Guidelines for diploma and certificate programs specify that 15 to 20 percent of the credit hour requirements should include courses in general education, exclusive of specialized courses in the major field or supporting technical or theory courses.

A key element in the development of educational programs relevant to regional needs is a citizen advisory committee. The local board of each college is responsible for recommending all new curriculum proposals and for the appointment of local citizen advisory committees for specialized programs and curricula. These committees are composed of people from the community with first hand experience in the specialty area. It is their function to advise the college on the training needs of the region, job availability, the practical value of course content and materials, and standards for admission to the program.

State citizen advisory committees were formed for each technical area. The department has utilized *ad hoc* committees to initiate specialized new programs, (i.e. nuclear technology at Central Virginia and optometrics at J. Sargeant Reynolds).

Proposed new curricula for a community college must have the recommendations of the faculty, the administration, the local curriculum advisory committee and the board of the college before they are sent to the State Department of Community Colleges. The State Board is responsible for final approval or disapproval of new curricula, except for new degree programs which require approval of the Council of Higher Education. It generally takes two years to complete the approval process for a new associate degree curriculum. Diploma and certificate proposals must be submitted 90 days prior to program initiation to allow for State Board action. Programs not new to the system may be approved by the Chancellor. New courses are approved by the Curriculum and Instruction Committee of the Department of Community Colleges and generally require only a week or two. Revision of courses takes a longer period of time because concurrence among colleges offering the existing course is required.

Procedures for Requesting Curriculum Approval

Detailed procedures for obtaining curriculum approval have been established by the department. The process is extensive and time consuming but if properly executed should provide the opportunity for effective control. Separate procedures apply to requests for new courses, new degree curriculum, and new diploma and certificate programs which are detailed below.

New Courses. Any college may propose a new course. The request must be approved by the Curriculum and Instructional Committee of the college prior to submission to the department. Department approval is required for all proposed courses not listed in the *State Curriculum Guide,* as well as courses listed in the guide, if the course is specific to a curriculum not approved for the college.

New Degree Curriculum. The procedure to request a new degree curriculum requires a two step process. First, a letter of intent must be approved by the department and the State council prior to the full development of a program proposal. The second step includes the submission of a full proposal. This includes extensive program and course descriptions, number of students anticipated, faculty required, physical plant and library requirements, and cost estimates for each area. The proposal must receive the approval of the college curriculum and instruction committee, the curriculum committee of the local board, the local board, department, the curriculum committee of the State Board, and the Council of Higher Education.

Diploma and Certificate Programs. A Letter of Intent is not required for certificate or diploma programs. The proposal must include the curriculum description and a list of the curriculum advisory committee. These must be approved by the department and State board. A summary of the agencies involved in curriculum planning and control is contained in Appendix V.

Departmental Reviews

The administrative procedures provide the opportunity for developing curricula tailored to regional needs. The review and approval procedures certainly provide the opportunity to insure excellence in curricula design and avoid program proliferation. Unfortunately, the department has not fully exercised its authority in the review and approval process in light of findings discussed in the educational programs section of this report. The department, under the direction of the State Board has already gone through two phases in dealing with curriculum control and appears to be entering a third.

In the *first phase,* all curriculum planning and control was highly centralized. The master plan prepared for the board in 1966 specified programs for each college. Curricula were generally developed by the initial staff of the college and in some cases by the department staff. Tight adherence to the system-wide State master plan created several problems, which could have been alleviated had the plan been regularly updated. Colleges coming into the system in the seventies were built and equipped to offer programs based on needs identified in the middle sixties and not reverified. Rappahannock and Southside Virginia are examples of colleges where prescribed electronics programs now appear to be inappropriate for current conditions, and expensive laboratories and workshops are severely underutilized. In both cases, problems are compounded by the rural character of the region.

Other difficulties stem from basing the initial curriculum plan on existing employment needs of regional industries which did not coincide with student interest. The textile program in Danville and furniture manufacturing at Patrick Henry suffer from disinclination of students to work in the factories that had employed their families. Other programs were developed at a technical degree level that was beyond the abilities of students seeking a community college education. Developmental courses were not sufficient to prepare students for sophisticated science and mathematics courses required for some Associate Degrees. Certificate or diploma level programs would have been more appropriate for the needs of students and employers in many cases.

The *second phase* is still ongoing, although tentative steps into phase

three are beginning to be taken. It is characterized by substantial decentralization and the lack of a master plan for the entire system. This occurred because the master plan prepared in 1966 was not updated and maintained as a viable long-range plan. Problems with programs specified in the plan, and institutional desires for greater autonomy, led to the belief that the local college administration and board would be better able to determine and respond to the local needs of the region. Colleges were to prepare their own educational institutional plans. The extent to which colleges responded to this opportunity varied with the leadership and the stage of development of the college.

In 1970, the State Council of Higher Education requested information about directions planned for each college during the next decade and the department prepared *The Curriculum Master Plan for Occupational Education*. This document was not a carefully developed plan for the system. Instead, it was a compilation of programs already in existence or in planning stages at the various colleges. In addition, it made proposals for programs based on data generated for the 1966 master plan, later manpower needs projection for the State (not regions) and informal surveys and discussions with the colleges. In essence, it projected what each college would like to become, rather than a realistic evaluation of regional needs and resource availability. The department has stated that it was not designed to be binding on the colleges, but the proliferation of programs was indicative of the expansive mood of the system.

Phase three can best be described as a reaction to the increased authority of the Council of Higher Education and the prospect of diminished financial resources. Recently, the council has disapproved a number of new program requests and instituted an audit of programs in terms of actual FTE and number of graduates. This will impose a need for tighter curriculum control at the college, department and board levels. The function of the curriculum and instruction staff of the department is to advise the colleges and the Chancellor, establish guidelines and procedures, and coordinate the curricular requests of the colleges. Although the staff has, at times, recommended against programs, the wishes of the colleges generally prevailed. The board has not established a maximum number of new programs for each college and the department takes the posture of not telling colleges what to do. JLARC's evaluation of university parallel and occupational-technical programs (Section III) clearly indicates there has been a proliferation of programs and that programs have not been discontinued even though enrollment was minimal. Departmental records are not, however, maintained to clearly identify the number of requests for new programs or their disposition.

Conclusion

The curricula offerings at the 23 community colleges generally reflect the desires of each school rather than the results of a well-managed system. Although the colleges are required to follow extensive administrative procedures to obtain approval of new curricula, approvals have generally been granted for the asking. Reluctance to exercise departmental authority in reviewing new curriculum requests as well as reviewing previously approved curricula has allowed course and program proliferation resulting in excessive costs. The necessary mechanisms already exist for effective curriculum planning and control. Proper execution of review and approval responsibility by the department and the Council of Higher Education is needed to bring about effective curriculum management.

ENROLLMENT FORECASTING FOR BUDGET AND FACILITIES

The operating and capital budget developed for each college and the department is a second management function that can be assessed from a functional perspective. Approved institutional budget requests represent a projection of the level of financial resources required to accomplish planned student output for a two-year period. The budget making process is not discussed in this report--methods and procedures are under review by other organizations. The enrollment estimate used for budget purposes, however, is a key factor that influences the executive recommendations and subsequent legislative appropriations; the accuracy of enrollment forecasting is critical to assess the VCCS performance.

Initial enrollment forecasts are developed by the colleges, reviewed by the department and finally approved by the Council of Higher Education. Disagreements between agencies have been resolved usually in the favor of State level decisions. Forecasts are made every other year to coincide with the budget cycle, and are developed for two purposes--budgeting for operating expenses and capital outlay. A different format is used for each estimate.

Enrollment estimates used for operating budgets are projected each year for a four-year period. Headcount is provided according to fall and summer term, and for off-campus activities. An estimated number of FTE students is also projected by regular session, summer session and off-campus. Forecasts for capital outlay are made for the fall quarter of each year over a ten-year period in terms of full-time equivalent day students. The term "full-time equivalent day student" applies to credit hours of instruction generated between 7:00 a.m. and 4:59 p.m. divided by 15. Enrollment is also forecasted for each program classification. The college transfer program is budgeted on a formula allowance of one faculty for each 20 FTE students and vocational courses are allowed one faculty for each 15 FTE students. Thus, enrollment by curricular category is an important, although not as critical, part of estimates.

Enrollment Forecast Accuracy. The reliability of forecasting can be measured by comparing estimated with actual enrollment over a reasonable period of time. JLARC compared actual FTE with the forecast for a four year period.

COMPARISON OF ACTUAL FORECAST WITH FTE ENROLLMENT
1970 - 74

	1970-71	1971-72	1972-73	1973-74
Forecast	20,025	26,325	33,560	38,712
Actual	20,383	24,624	29,113	34,784
Difference	358	(1,701)	(4,447)	(3,928)
% Difference	1.8%	(6.5%)	(13.3%)	(10.5%)

Source: (Forecast) 1970-72, 1974 Budgets, (Actual) Department of Community Colleges Enrollment Reports.

On a system-wide basis, enrollment projections ranged from 1.8% below actual in 1970-71 to 13.3% above actual in 1972-73. General fund appropriations were calculated by the Division of the Budget at $840 for each FTE student in 1970-72 and $988 in 1972-74. Assuming these dollar amounts accurately represent fiscal

need, this means the VCCS was appropriated about $1.1 million more in general funds according to FTE estimates than would have been appropriated if actual enrollments were used in 1970-72, and in 1972-74, the excess amounted to about $8 million. The VCCS subsequently returned $2,046,535 to the State Treasury in 1973 and $2,214,075 in 1974 (none was returned during 1970-72 biennium). The Department reported the remaining excess funds of $5,142,010 were applied as follows:

APPLICATION OF FUNDS

1970 - 72

Capital Improvements	$144,782
Patrick Henry Support	203,000
Eastern Shore Support	75,000
Regrade Costs Absorbed	300,000
Dept. Admin. Support	216,500
Budget Support - Various Colleges	188,838
TOTAL	$1,128,120

1972 - 74

Regrade Costs Absorbed	$866,000
MIS Development - (Dept. Admin)	610,045
Purchase of Computer (Northern Virginia)	546,000
Library Books	575,000
Capital Improvements - (Matching Federal Funds)	142,920
Budget Support - Eastern Shore	176,400
Budget Support - J. S. Reynolds	308,500
Budget Support - Rappahannock	108,230
Budget Support - Southside	164,500
Budget Support - Va. Western	155,500
Budget Support - New River	82,510
Budget Support - Thomas Nelson	97,500
Budget Support - Other Colleges	180,785
Total	$4,013,890

Source: Provided JLARC March 10, 1975, by L. Daniel Crooks, Director, Administration and Finance, Department of Community Colleges.

A comparison by college of actual full-time equivalent students with the number forecasted for the 1972-74 biennium and appropriations impact is presented in Table 35.

Forecasted enrollment exceeded actual by more than 30% at four colleges and more than 20% at nine colleges in 1972-74. Actual enrollment exceeded the forecast at New River and Thomas Nelson by 23% and at Patrick Henry by 19%. The

Table 35

1972-74 APPROPRIATIONS IMPACT
Difference Between Forecasted and Actual FTE Enrollment

School	Forecast FTE	Actual FTE	Difference Number	Difference %	Appropriation Per FTE	Appropriation Excess (Shortfall)
Blue Ridge	2,000	1,523	477	24%	$ 1,038	$ 495,126
Central Virginia	2,500	2,488	12	-	1,011	12,132
Dabney S. Lancaster	1,075	921	154	14	1,215	187,110
Danville	3,102	2,902	200	6	912	182,400
Eastern Shore	475	336	139	29	1,214	168,746
Germanna	1,760	1,028	732	42	1,145	838,140
J.Sargeant Reynolds	2,850	1,768	1,082	38	689	745,498
John Tyler	3,000	2,572	428	14	1,022	437,416
Lord Fairfax	1,820	1,162	658	36	1,155	759,990
Mountain Empire	1,130	931	199	18	787	156,613
New River	1,775	2,178	(403)	(23)	1,035	(417,105)
Northern Virginia	21,480	19,856	1,624	8	876	1,422,624
Patrick Henry	695	827	(132)	(19)	1,504	(198,528)
Paul D. Camp	1,425	1,042	383	27	1,017	389,511
Piedmont Virginia	1,350	950	400	30	941	376,400
Rappahannock	1,705	763	942	55	1,085	1,022,070
Southside Virginia	1,860	1,414	446	24	1,058	471,868
Southwest Virginia	2,200	2,038	162	7	964	156,168
Thomas Nelson	3,200	3,933	(733)	(23)	925	(678,025)
Tidewater	7,700	7,404	296	4	887	262,552
Virginia Highlands	1,675	1,413	262	16	1,171	306,802
Virginia Western	5,725	4,722	1,003	18	820	822,460
Wytheville	1,770	1,726	44	3	961	42,284
Total	72,272	63,897	8,375	12%	$ 988	$7,962,252

Source: (forecast and appropriation per FTE) 1972-74 Executive Budget
(actual FTE) Department of Community Colleges Enrollment Reports.

accuracy of forecasts at some colleges is remarkable. At five colleges, enrollment was within eight percent of the forecast. At Central Virginia, enrollment was within one-half of one percent of forecast. On the other hand, forecasting inaccuracy at other colleges is alarming. For example, forecasts exceeded enrollments by 55% at Rappahannock, 42% at Germanna, 38% at J. Sargeant Reynolds and 36% at Lord Fairfax. The impact of unreliable forecasting in terms of operating and maintenance budgets for the 1972-74 biennium resulted in excess appropriations at twenty of the twenty-three colleges in amounts ranging from about $12,000 at Central Virginia to more than $1 million at Rappahannock and Northern Virginia. General fund appropriations were understated by about $678,000 at Thomas Nelson, $417,000 at New River and $198,000 at Patrick Henry.

JLARC compared the extent of enrollment forecast inaccuracy and school size and age. A relationship (r=.49) was found between forecast accuracy and

school size, but little relationship was found between accuracy and institutional age (r=.24); but the extent of inaccuracy is not just a function of size. Patrick Henry, the third smallest school in terms of FTE, ranks third from the top based on actual FTE as a percent of forecast. Given the fact that the enrollment forecasts of at least four schools (Blue Ridge, Lord Fairfax, Germanna, Rappahannock) have been consistently overstated for several years, indicates that some of the inflated estimates were known. For example, forecasts for Blue Ridge, have exceeded actual FTE enrollments by wide margins since 1969. Similarly high estimates have been made at Lord Fairfax and Germanna for the past three years and at Rappahannock for two. (See Appendix V).

The responsibility for forecasting inaccuracy cannot necessarily be attributed to the community college. For example, during a campus visit to Lord Fairfax, JLARC staff discussed enrollment estimating in considerable detail. According to campus administrators estimates for 1973 and 1974 were adjusted in the following manner.

Lord Fairfax estimated FTE enrollment for fall 1973 at 644 students. The department and the Council of Higher Education subsequently increased projections to 739 FTE. Actual enrollment was 641 FTE students, just three students less than originally estimated. For fall 1974, campus officials estimated an increase to 739 FTE, the department and council projections were set at 836, but actual enrollment was 647 students. Although Lord Fairfax overprojected by 92 students, official forecasts overestimated by 189 students.[33]

Program Category Enrollment

The large unclassified student category also has a substantial impact on operating budgets. As previously noted, faculty positions are allowed according to the type of course taught (1:20 FTE students for college transfer, 1:15 FTE students for vocational). Because nearly half of all VCCS students are unclassified, schools must assign these students to one of the budget allowance ratios. JLARC has not been able to determine any official departmental policy regarding unclassified students, however, according to most campus business officers interviewed, the unclassified group are usually assigned to the vocational category. The outcome of this procedure is obvious--schools are budgeted at the most favorable faculty allowance.

The student survey analysis clearly indicated the majority of all unclassified students could be assigned to another classification. In fact, through reclassification, the unclassified category was reduced from 54% to 11%. JLARC calculated, based on formula allowances for faculty positions, there could have been a minimum reduction of 44 full-time faculty if unclassified students were properly categorized for budget purposes. Based on the average faculty salary of $10,770 in 1973-74, the appropriation reduction would have exceeded $470,000.

Conclusion

The Department of Community Colleges readily concedes that enrollment estimating has not been very accurate, and JLARC was assured forecasting has been improved. Fall 1974 system-wide enrollments were within 4.3% of forecast, but

enrollments at three colleges were still far below forecasts (Rappahannock - 46%, Germanna - 35%, Lord Fairfax - 24%). Enrollment forecasts used for budget requests and legislative appropriations have not been reliable and consistently overstate the anticipated level of enrollment. Considerable attention must be directed toward developing reliable enrollment forecasts by college to permit more accurate matching of resources with requirements. There is little use to a monitoring system that adjusts budgets after actual enrollment is known, since institutional commitments have already been made for the academic year; and, possible reversions of funds are not likely to occur in view of previous expenditure patterns. Accurate program enrollment estimates are also necessary. The increasing tendency of the VCCS to use the "unclassified" student enrollment notation is more an action of administrative convenience than a necessary, desirable or meaningful designation. Sound college management requires an awareness of student objectives, and an unclassified student classification hardly contributes to sound information on which to plan or administer.

The Council of Higher Education and the State Board should exercise their statutory responsibilities and develop more accurate estimating procedures and a reliable classification system for community college students. Of course, revised forecasting and classification systems will require time to validate. Nevertheless, the General Assembly cannot afford to continue to appropriate funds that are justified only by inflated enrollment projections or administratively convenient classification systems. Both the Council of Higher Education and the State Board should give the highest priority to this problem and the General Assembly should carefully monitor progress.

Facilities Management

General fund appropriations for capital outlay construction and planning at Virginia's institutions of higher education totaled more than $10.5 million for the 1974-76 biennium. Of this amount, about 37 percent ($3.9 million) was authorized for VCCS facilities. Since 1966, out of $85.8 million spent to construct community college facilities, the State has funded $50 million. The need for additional physical facilities was identified as a significant problem during JLARC's initial meeting with the Chancellor. We were told that approximately 2.7 million square feet of additional space was required. A conservative estimate of the cost of construction for this space would approach $100 million.

Facilities for community colleges are costly and require considerable lead time to plan and construct and, for this reason, they should be designed to meet long term needs and managed with the objective of obtaining maximum utilization. Considerable effort has been expended by the Commonwealth to develop a formula system for use in determining physical space requirements for higher education institutions. In 1970, the Capital Outlay Coordinating Commission for Higher Education was formed and charged with studying the problem of determining need. The Commission's recommendations included the following:

- A formula system for allocation of capital outlay funds;
- Standard format for presentation of capital outlay requirements by institutions;
- Space planning standards for twelve categories of space;

1. Classroom
2. Teaching Laboratories
3. Teaching Faculty and Related Secretarial Offices
4. Library Stack, Reader Service Area
5. Physical Education Facilities
6. Self-Study and Teaching Clinic
7. General Use
8. Research Faculty Offices
9. Other Research Space
10. Extension and Public Service Administrative and Faculty Offices
11. Administrative and General Office
12. Physical Plant Service

The space planning guides recommended by the commission and approved by the General Assembly and the Governor were used to determine space requirements during the 1970-72 and 1972-74 bienniums. On October 1, 1974, the Council of Higher Education issued a set of revised space planning guides to be used in submitting capital outlay requests for the 1976-78 biennium. Standards for three of the twelve categories were changed.

- *Classroom and Service Space* - the standard was changed from: .796 assignable square feet (ASF) per student station period occupied based on total FTE day enrollment; to, .85 ASF for enrollment up to 999; .79 ASF for enrollment between 1,000 and 2,499; and .72 ASF for enrollment over 2,500.

- *Class Laboratories and Service Space* - the standard was changed from: 2.813 ASF per student station period occupied based on total FTE day enrollment; to, 3.10 ASF for enrollment up to 999; 2.73 ASF for enrollment between 1,000 and 2,499; and, 2.34 ASF for enrollment over 2,500.

- *Instructional Faculty Office and Service Space* - the standard was changed from 162 ASF per FTE instructional faculty to 140 ASF.

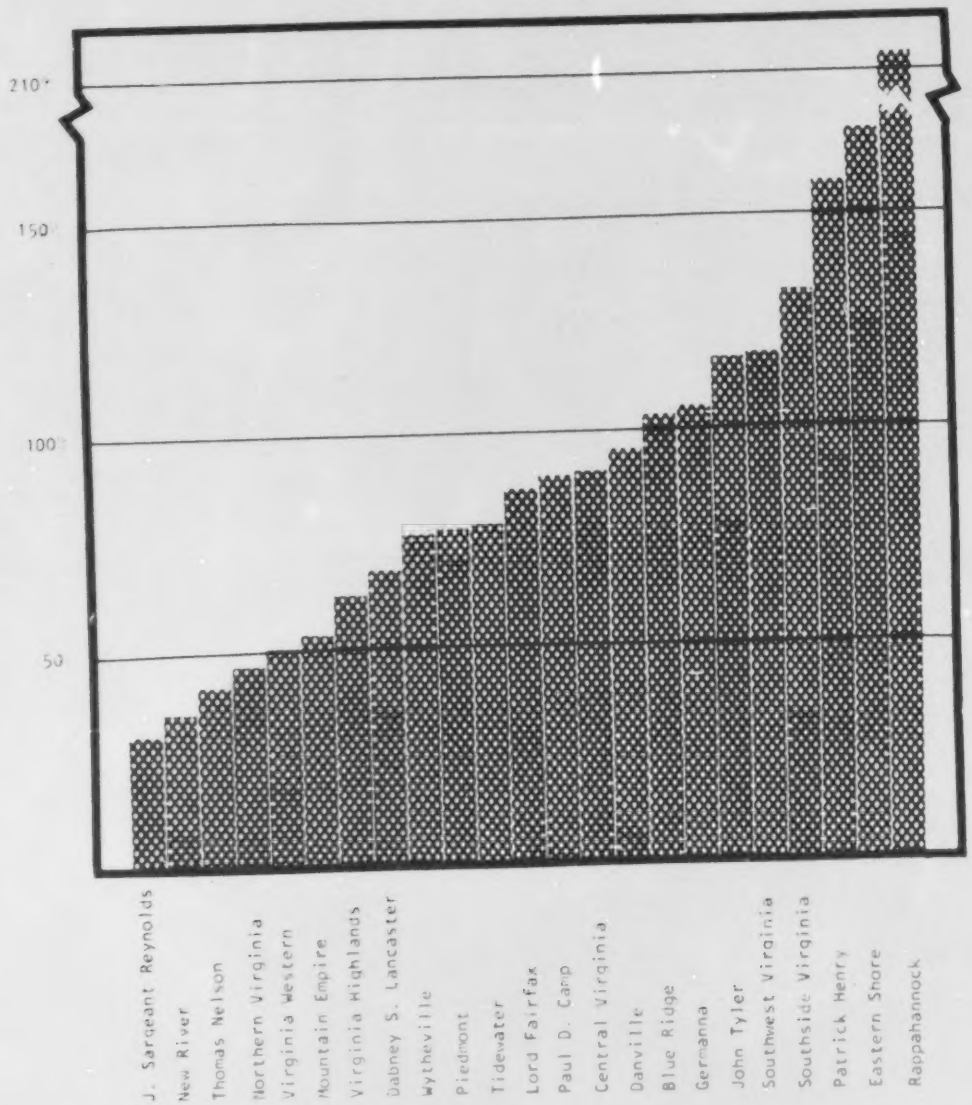
The net effect of the first two changes is to increase space allowances for more than half of the Community Colleges.

Space Needs. Space needs are determined by applying the standards to enrollment projections four years in the future to determine total requirements. The total is then reduced by existing inventory to arrive at the additional space needed. For example, the space needs contained in capital outlay recommendations considered by the 1974 session of the General Assembly were based on enrollment projections for the year 1978, less existing inventory and space previously funded. Since space requirements are the product of two factors--space guides and enrollment projections, the accuracy of computed space requirements depends on the validity of each function. We have already reported that enrollments have fallen short of projections at some colleges by more than 50 percent and exceeded projections at others by as much as 30 percent. Therefore, space requirements based on these projections have not represented actual need.

The extent to which the present space inventory matches requirements is

a good indicator of how well planning for physical facilities has been carried out. JLARC compared capacity with need based on fall 1974 enrollments. Figure 23 shows the physical facility capacity for each institution as a percent of space authorized by the formula--fourteen colleges have less space than the standard allowance. J. Sargeant Reynolds has the lowest proportion of space allowed with only 31 percent of standard.

Figure 23
PHYSICAL FACILITY CAPACITY AS A PERCENT OF REQUIREMENTS
Fall '74 Enrollment



Source: State Council of Higher Education, *Capital Outlay Recommendations, 1974-76 Biennium, (Richmond, Virginia, n.d.)*, and Department of Community Colleges, Division of Research & Planning, *Student Enrollment Booklet, Fall, 1974*, Richmond, Virginia.

Nine colleges have more space than required to accommodate their fall 1974 enrollment. The amount of excess space ranges from four percent at Danville to 115 percent at Rappahannock. It is interesting to note that six of these colleges (Blue Ridge, Eastern Shore, John Tyler, Patrick Henry, Rappahannock and Southwest Virginia) received capital outlay appropriations in the 1972-74 biennium (Eastern Shore was provided a new campus). The Department of Community Colleges also requested capital outlay projects for two of the nine colleges in their 1974-76 budget submission (Germanna and Patrick Henry). The requests were not approved.

Facility Utilization

Another indicator of good management is utilization of existing facilities. JLARC found limited attention given to facility utilization by the VCCS management. Utilization studies being performed are generally limited to the State Council's biennial reports on instructional space utilization. Data included in the most recent report, Fall, 1972, has been used to examine space utilization in two categories--classroom and laboratory space. (The report does not address the remaining ten categories).

•*General Classroom.* During the fall of 1972, the Community College System used its classrooms on the average of 24.3 hours per week (between 8:00 a.m. and 5:00 p.m.) and 71.1% of the student stations were occupied when rooms were in use. This means that 38.4% of total classroom student capacity was utilized. The space planning guide recently issued by the Council of Higher Education is based on an average utilization of 36.7% of capacity. Thus, system-wide utilization is greater than expected.

Figure 24, however, displays classroom utilization by college ranging from a low of 15% at Rappahannock to a high of 71.6% at Central Virginia. Ten colleges achieved better utilization than the rate expected by the planning guide (36.7%). Five colleges exceeded that rate by more than 10%.

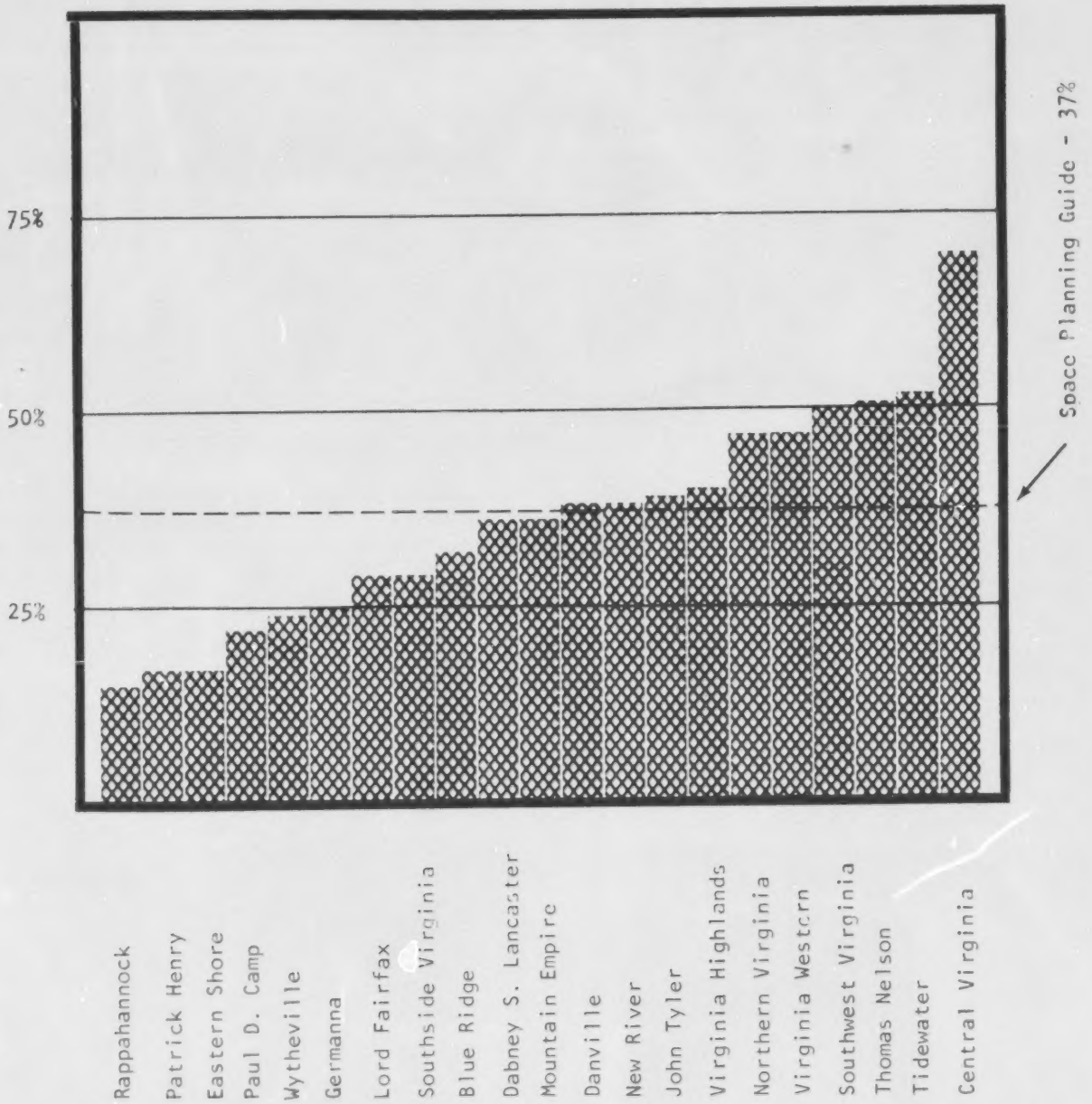
•*Technical/Vocational Class Laboratory (Shops).* Utilization of shop space on a system-wide basis (between 8:00 a.m. and 5:00 p.m.) was 32.4% -- six percent less than classroom utilization (Figure 25). Shops were in use an average of 20.1 hours per week and 72.5% of the student stations were occupied when the shops were used. The State planning guide provides for 30% utilization on the average. As with classroom utilization, use of shop space by colleges varies widely--from a low of 11.5% at Paul D. Camp to 81.4% at Southwest Virginia. Ten colleges failed to meet the planning guide rate while nine exceeded it. Five colleges (Northern Virginia, Virginia Western, Mountain Empire, New River, Thomas Nelson and Southwest Virginia) exceeded the rate by ten percent or more.

Conclusion

The space planning standards first developed by the Capital Outlay Coordinating Commission and subsequently updated by the Council of Higher Education have standardized the format for capital outlay presentations. Nevertheless, the computed requirements resulting from these guides bear close examination. First, the space standards have not been thoroughly tested by comprehensive utilization studies. The reports being prepared biennially by the council only

Figure 24

UTILIZATION OF GENERAL
CLASSROOM SPACE
FALL - 1972

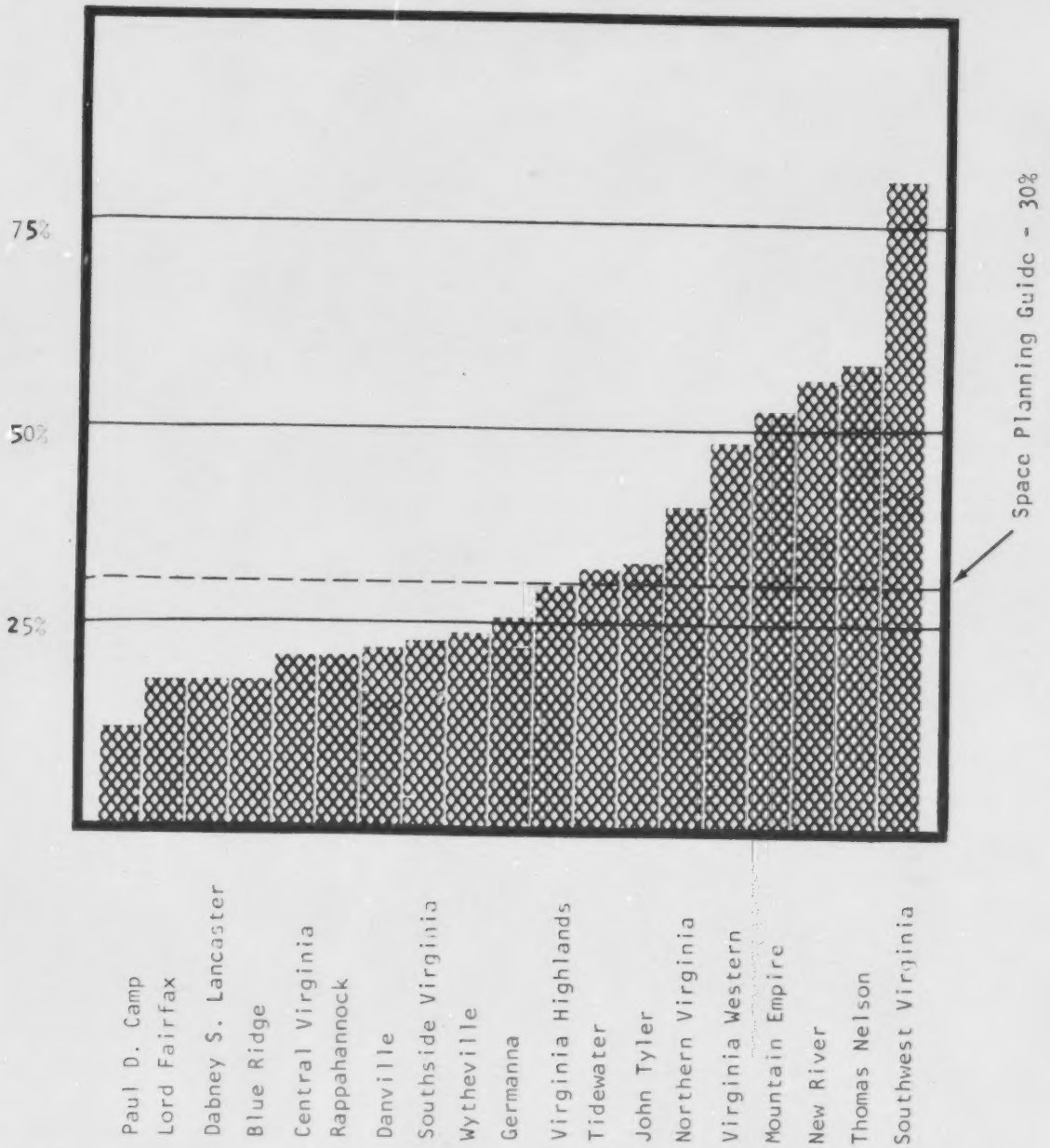


Note: Data not available for J. Sargeant Reynolds and Piedmont Virginia.

Source: State Council of Higher Education, "Utilization of Instructional Space - Fall '72", (Richmond, Va., n.d.)

Figure 25

UTILIZATION OF TECHNICAL/VOCATIONAL
LABORATORY SPACE
Fall-1972



NOTE: Data not available for J. Sargeant Reynolds, Patrick Henry and Piedmont Virginia

Source: State Council of Higher Education, "Utilization of Instructional Space - Fall, '72"., (Richmond, Va., n.d.).

report on two of the twelve categories. Of the two categories reported, no attempt is made to analyze deviations from standard. Second, inaccurate enrollment forecasts result in equally inaccurate computation of space requirements. The difficulty in predicting enrollment four years in the future is accepted. However, it should be recognized that capital outlay requests can be no more valid than enrollment projections.

Finally, alternatives to capital construction should be identified and weighed carefully in terms of both short and long term costs. The community college system has experienced eight years of rapid enrollment growth and now has facilities at 32 locations throughout the State. It could be tempting to assume this rate of growth will continue, but in the past few years, changes have occurred in enrollment trends at Virginia's four-year institutions that could impact on future needs for facilities at community colleges. The increasing trend in enrollments at four-year institutions has leveled off to the point that excess space has been reported at several colleges.[34] Careful planning is needed to insure that community college facility capacity is kept within long range requirements. Use of other public and private facilities to accommodate peak enrollments could provide cost effective alternatives in some cases.

During the course of this review, JLARC staff also noted three areas of concern in regard to facility planning and utilization. The space planning guides are based on day utilization while community colleges have a substantial number of evening students and the enrollment trend is placing an increasing burden on evening utilization. The Council of Higher Education should make every effort to develop space planning guides for community colleges that measure facility requirements for both day and evening utilization.

JLARC found a number of colleges that indicated a need for additional space but only scheduled classes five days and four evenings each week. The college should schedule popular classes on Friday evening and Saturday to make better utilization of expensive facilities. Changing enrollment trends make this issue especially important.

Finally, the orientation of most colleges for the past several years has been to develop on-campus instruction, even though facilities to accommodate evening and commuting students are very costly. Each college should consider taking instruction to the students by renting facilities or by using other public facilities such as local high schools.

VCCS ACADEMIC MANAGEMENT

The teaching faculty is a primary component of any educational institution. Teaching faculty are the link between the students and the curricula, and are the people with whom students have the greatest contact during their enrollment in a school. The qualifications and attitudes of the VCCS faculty largely determines the success or failure of each institution. Additionally, faculty salaries consume the largest portion of the VCCS budget. Thus, the efficiency of the system rests heavily on the extent to which faculty resources are properly administered. This section reviews academic management according to the characteristics of teachers and administrators in VCCS colleges, faculty productivity, and college staff attitudes. Information for each of these components has been derived from the JLARC faculty survey of VCCS staff employed during

the fall quarter of 1974. The Technical Appendix discusses survey methods and analysis.

In the Virginia Community College System, faculty employees are defined as staff "who are eligible for faculty rank and teach or occupy an administrative position which is exempt from the classified service."[35] The latter category includes, among others, department heads, counselors and librarians. The four standard levels of faculty rank are Professor, Associate Professor, Assistant Professor and Instructor. An additional title, Lecturer, refers to part-time faculty employed to teach less than half of a normal load or less than a full session. Thus, faculty consists of teachers, administrators and lecturers.

In the fall quarter of 1974, the system employed 2,040 full-time and 1,760 part-time faculty. The number of each category employed at each college is detailed in Table 36.

Table 36

FACULTY EMPLOYMENT BY CATEGORY
Fall, 1974

	Teaching Full-Time	Administrative Full-Time	Lecturers	Total
Blue Ridge	38	10	21	69
Central Virginia	65	20	34	119
Dabney S. Lancaster	27	16	24	67
Danville	66	20	21	107
Eastern Shore	11	7	19	37
Germanna	35	10	21	66
J. Sargeant Reynolds	91	42	240	373
John Tyler	69	24	56	149
Lord Fairfax	33	15	16	64
Mountain Empire	23	13	25	61
New River	46	20	72	138
Northern Virginia	329	103	596	1,028
Patrick Henry	18	8	15	41
Paul D. Camp	31	14	18	63
Piedmont Virginia	29	14	60	103
Rappahannock	32	15	40	87
Southside Virginia	36	18	57	111
Southwest Virginia	45	22	19	86
Thomas Nelson	100	30	91	221
Tidewater	174	54	197	425
Virginia Highlands	44	15	18	77
Virginia Western	108	35	57	200
Wytheville	48	17	43	108
Total	1,498	542	1,760	3,800

Source: (full-time faculty) Department of Community Colleges, Management Services Division. (lecturers) JLARC telephone poll of each college, January, 1975.

Guidelines regarding qualifications for rank and salary have been established by the State Board. Faculty are recruited by each college but final approval for all personnel comes from the State Board. (See Appendix V)

Salary Structure. VCCS does not currently have a tenure system. Faculty who received tenure prior to January 29, 1969, retain it; all others are appointed to a one, three or five year contract. Employment during any three sequential summer, fall, winter or spring quarters constitutes an academic contract year for teaching faculty, but most administrators are employed on a twelve month contract. Only teaching faculty, counselors, program heads, assistant division chairmen, and librarians are eligible for three and five year appointments. Administrators, assistant instructors, and lecturers are appointed for one-year or less. The normal sequence of appointment is for a faculty member to hold three (3) one-year appointments and one (1) three year appointment before becoming eligible for a five year contract. However, there is no limit to the number of one or three year contracts which may be granted an individual. This policy is designed to provide flexibility to meet changing needs of the system.

The present salary schedule was approved by the State Board in November, 1974. (Table 37) Salaries are determined by the local college president within these ranges consistent with the qualifications of each candidate. Factors taken into account are the highest degree attained, previous teaching experience, and related experience in business or industry. Administrative twelve month salaries range from $17,000-$26,400 for a provost, from $15,000-$24,750 for a dean, and from $11,000-$19,800 for various types of coordinators. Salary for each community college president is recommended by the board and finally approved by the State Division of Personnel.

Table 37

VCCS FACULTY SALARY SCHEDULE
(Nine-month Appointments)

Faculty Rank	Minimum Salary	Maximum Salary
Professor	$14,080	$17,600
Associate Professor	12,320	15,840
Assistant Professor	10,560	14,080
Instructor	8,800	12,320
Assistant Instructor	6,600	8,800

Source: VCCS salary schedule, revised November, 1974.

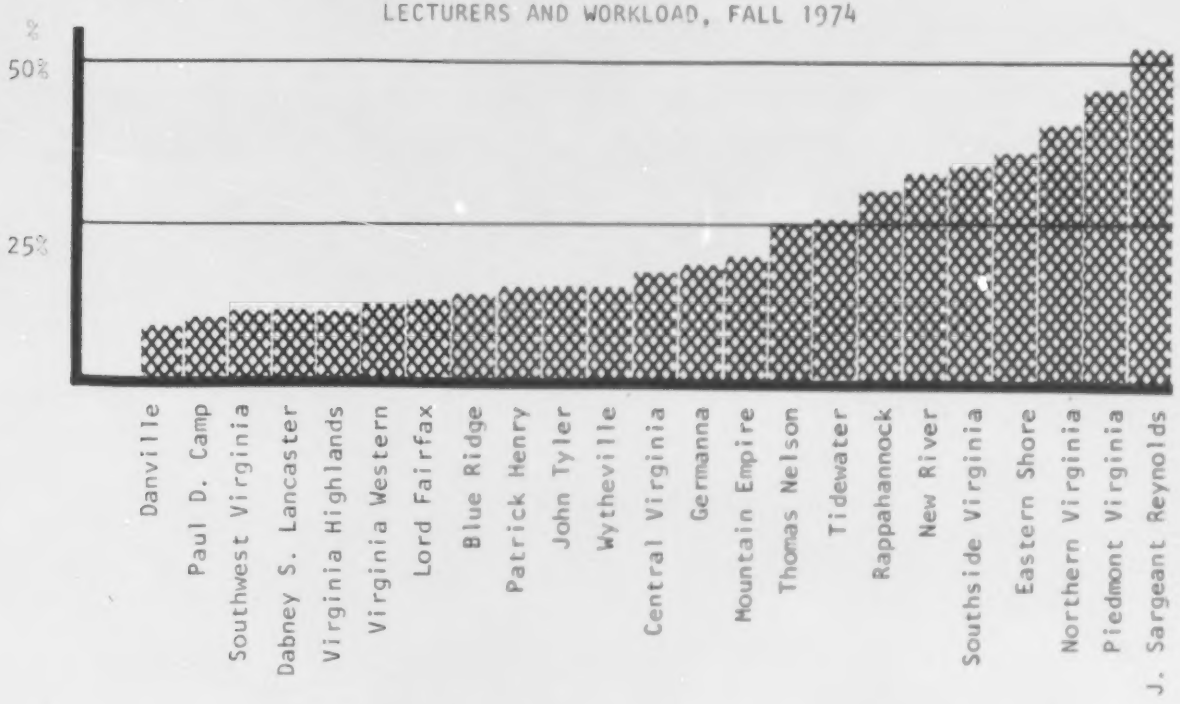
The JLARC survey found that 54% of all faculty is employed full-time and 46% is part-time. Of the full-time faculty, three-quarters report teaching responsibilities and one-quarter are administrators. There is some mingling of roles, and about 20% of the teachers carry administrative responsibilities (administrators also occasionally teach courses). Lecturers are a distinct group in that they are employed only to teach and usually do not otherwise participate in the life of the school.

System-wide, full-time faculty teach approximately 70 percent of the total workload and lecturers (part-time) contribute approximately 28 percent. Generally, schools with a large proportion of unclassified students make the

greatest use of lecturers. This is not surprising because unclassified students are generally enrolled in evening courses and are part-time, occasional students requiring schools to provide greater flexibility in scheduling. Figure 26 shows the number of lecturers at each school as an estimated proportion of total workload.

Figure 26

LECTURERS AND WORKLOAD, FALL 1974



Source: JLARC Faculty Survey, November, 1974, and JLARC Telephone Poll, February, 1975.

In addition to teaching, faculty indicated that they were involved in numerous college activities during the last academic year as shown below.

REPORTED FACULTY ACTIVITIES

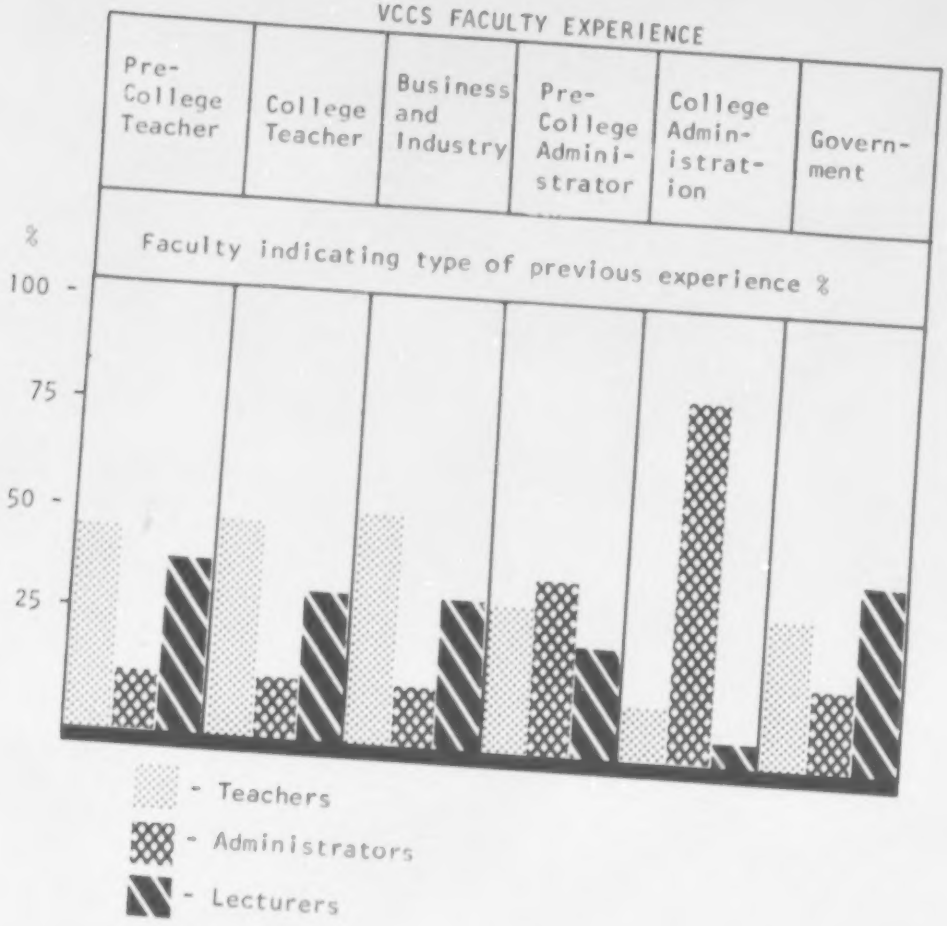
Activity	% Faculty
College Committees	52%
Professional Meetings	49
Community Service	42
Advanced Study	35
Student Activities	30
Curriculum Development	30
In-service Training	26
Research	20

Most non-teaching time appears to be used in college committees and professional meetings. (Survey responses also indicate that 15% of the full-time teachers have employment in addition to their community college position.)

The VCCS faculty tends to be relatively young, most (64%) indicated they were under 40. VCCS staff is predominantly white (93%) and male (69%) and have served an average of four years at their present school. About 25% of the full-time teachers indicated that they were tenured and about 50 percent held one year contracts. The community colleges report that the average degree held by the VCCS full-time faculty is at least a masters degree.

The primary criteria used in State Board guidelines for appointment and promotion are the highest degree held and related experience. Figure 27 illustrates previous experience for each category of college staff. Within each category shown, the years of previous experience was somewhat limited.

Figure 27



Source: JLARC Faculty Survey, November, 1974.

Faculty Productivity

The VCCS teaching faculty is primarily concerned with instructing students, since the research and publishing demands found at most senior institutions are not emphasized in a community college environment. State Board policy specifies that normally, teaching workload should be 12-15 credit hours and 15-20 contact hours for each week of each academic quarter. Workload may be reduced if the credits of laboratory instruction significantly expands required contact hours or if a teacher is performing officially assigned administrative tasks. Assignment of teacher workload based on this policy is the responsibility of the community college administration.

Sound system management would monitor workload as one criterion of efficient administration. The Department of Community Colleges does not have a reporting system to determine faculty workload at the present time, although the planned MIS includes a workload subsystem. The department did try to match its computerized payroll file with a similar class registration file at JLARC's request, but, the information available was not sufficiently accurate to produce usable results. Since faculty productivity is important to evaluation of VCCS performance, the JLARC faculty survey compiled workload data by school. The results of the analysis are reported below in terms of faculty productivity.

Workload Measurement. The two principle components of productivity are: 1) the number of students taught; and, 2) credit hours. If these components are combined (students times credit hours) a productivity indicator can be established (termed student credit hours) to compare each schools productivity with an accepted average. Since workloads may vary for each teacher in any quarter, we have calculated productivity by school for the fall quarter according to three standards based on board workload policy.[a] This calculation assumes that workload balance is achieved by division or type of course in each school.

High Productivity Standard -- 300 student credit hours
Medium Productivity Standard -- 236 student credit hours
Minimum Productivity Standard -- 180 student credit hours

Figure 28 ranks the twenty-three VCCS colleges according to calculated average faculty productivity. Since this figure is based on a sample survey, the range within which the total faculty would be likely to fall is shown in addition to the productivity indicator for each school (see Technical Appendix). System-wide, the fall quarter teaching faculty appear to have a high degree of productivity. The mean for the system falls at 311.3 student credit hours. Interestingly, nine schools fall below the medium productivity standard and nine other schools are above the maximum. It should be noted that productivity is not necessarily the same as workload. A faculty member in the lowest productivity range may actually teach several classes with different preparations but not have enough students to

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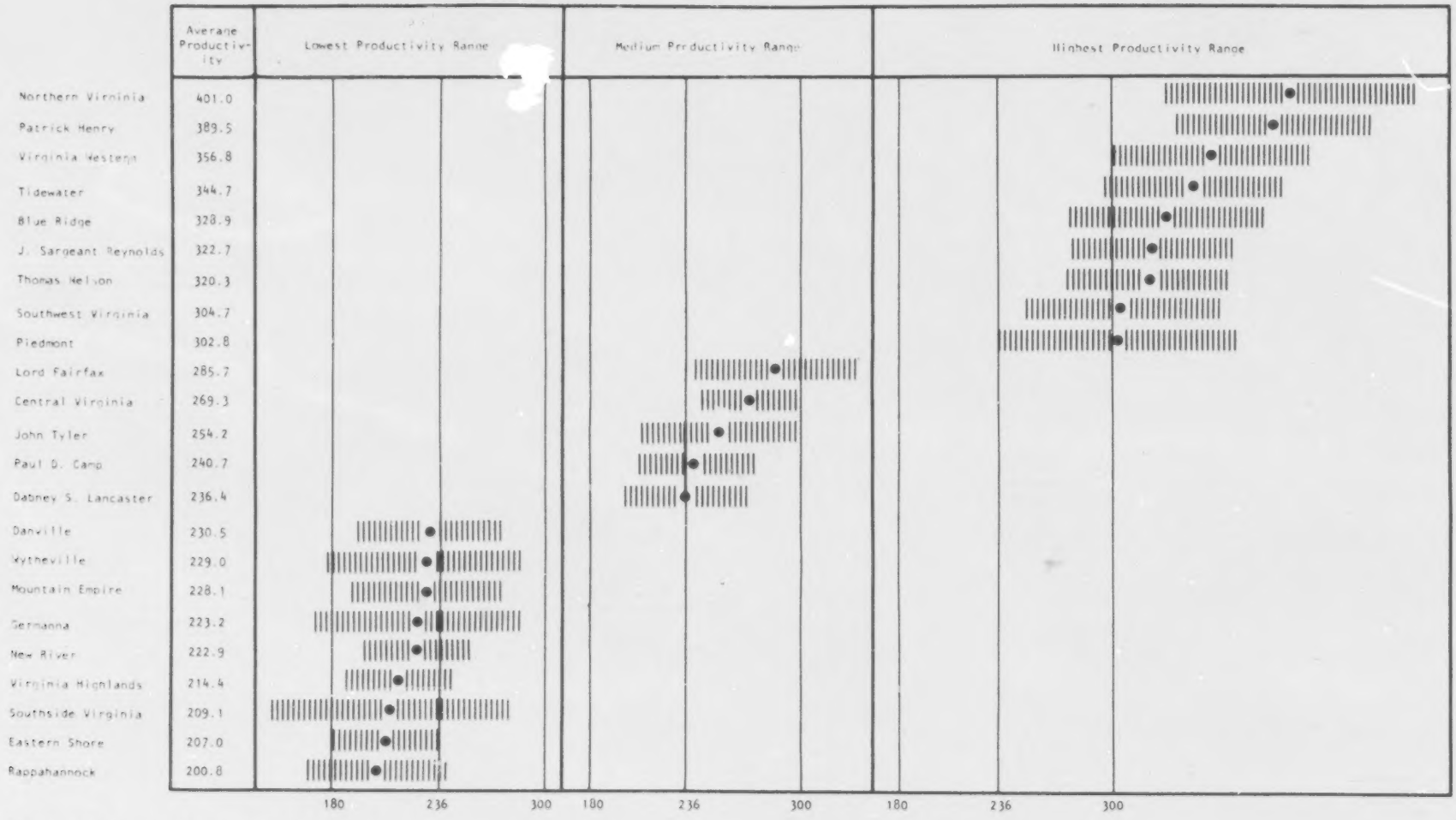
[a]Productivity is calculated in terms of full-time equivalent faculty (FTEF) by deducting percent of time reported as required by administrative assignments. Student credit hours standard is based on Board policy of 12-15 credits times budget allowance of 1:15 or 1:20 faculty/student ratio. High productivity equals (15 credits times 20 students): Medium Productivity equals (13.5 credits times 17.5 students): Minimum Productivity equals (12 credits times 15 students)

Figure 28

AVERAGE FACULTY PRODUCTIVITY

Fall Quarter 1974



Source: JLARC Faculty Survey, November, 1974.

show high productivity which is a combination of credits and students. Conversely a faculty member in the highest average range may teach large classes of only one or two different courses necessitating fewer preparations and classroom hours, yet generating a higher productivity. Class size is therefore a significant factor in faculty productivity as it is in program costs.

Although productivity is above the minimum standard at every school, each school has a disproportionate level of productivity for a portion of full-time teaching faculty. An estimated 212 teachers at 19 schools teach less than the minimum of 180 student credit hours. This number represents about 14% of all teaching faculty in the VCCS. Some, but not all, of this reduced productivity is the result of small classes. Other explanations are not readily apparent since the survey analysis accounted for assigned administrative duties. In each case teaching time was adjusted to reflect administrative duties in the productivity analysis. (Table 38).

Faculty productivity is also linked with the extent to which a school serves the population of its local area, measured in terms of students per 1,000 residents (outreach), institutional age and the number of programs offered and faculty employed. Thorough analysis of comparative productivity data over regularly defined periods would indicate which of these variables most influence productivity at each school.

Low Productivity

Southside, Rappahannock, Germanna, Eastern Shore and Mountain Empire are examples of relatively new community colleges (3-4 years) that have not yet developed extensive outreach. Growth has been particularly limited by the rural, relatively isolated nature of these districts. At each school, faculty productivity is low and until enrollment increases, faculty will continue to be costly. The cost factor is increased by the fact that the first faculty employed for each program are often the most experienced and the schools are attempting to offer too broad a curriculum.

Danville, New River, Virginia Highlands and Wytheville are older schools that had been in existence before becoming community colleges and have achieved reasonable outreach. It appears that at these schools low productivity can to some degree be attributed to both more teachers and more courses and program offerings than enrollment can support. For example, New River offers the same number of programs as Virginia Western (37) but has only half the enrollment. Wytheville offers the same number as Thomas Nelson (26) but has only one-third the enrollment.

Medium Productivity

Not surprisingly, schools that fall in the mid-range have differing characteristics. John Tyler is an older school with relatively limited outreach that has had unusually high turnover in administrative leadership. Dabney S. Lancaster is an older rural school that still has obstacles to overcome with regard to community attitudes and geographic location. Lord Fairfax, on the other hand, is a young school with a relatively limited number of programs which minimizes small classes and increases productivity.

Table 38

FACULTY BELOW MINIMUM PRODUCTIVITY
(180 Student Credit Hours)

College	Number of Respondents	Weighted Number
Blue Ridge	2	5.4
Dabney S. Lancaster	1	3.0
Danville	3	15.3
Eastern Shore	2	3.2
Germanna	4	15.6
John Tyler	3	18.9
J. Sargeant Reynolds	1	9.1
Lord Fairfax	2	4.2
Mountain Empire	4	9.2
New River	3	19.8
Paul D. Camp	3	8.4
Piedmont Virginia	1	4.8
Rappahannock	4	16.0
Southside Virginia	5	22.5
Southwest Virginia	1	5.0
Thomas Nelson	1	6.7
Tidewater	1	10.2
Virginia Highlands	5	17.0
Wytheville	4	17.6
Total	50	212

Source: JLARC faculty survey, November, 1974.

High Productivity

Generally schools in the highest productivity range are among the oldest in the system. Northern Virginia and Virginia Western, were, for example, the first to be established and have both large enrollments and well developed outreach. Exceptions within this group are Patrick Henry, J. Sargeant Reynolds and Piedmont, new schools which have experienced rapid growth. High productivity at J. Sargeant Reynolds is also a result of a large student influx when its second campus opened in late 1974. Patrick Henry limits its program offering to sixteen which also minimizes the number of small classes.

Conclusions

At the present time, the department provides guidelines for rank and salary of faculty members and monitors the appointment process of full-time faculty. The VCCS employs a highly competent hardworking faculty drawn from widely divergent backgrounds. However, as the system continues to develop the department should also concern itself with appropriate staffing patterns within schools and with effective inservice programs for orientation and teaching skill

development purposes of persons new to the community college environment.

Approximately 46% of the faculty in the fall quarter is comprised of part-time teachers (lecturers). These appointments are not reviewed by the department and lecturers are not generally evaluated, as are full-time teachers at the college level. This is a serious omission since lecturers instruct a significant number of courses and students system-wide.

Comparative management data is needed to increase system-wide application of State Board policy with regard to workload. Such data would be most useful analyzed over several quarters on the basis of instructional divisions. Although productivity overall is high, wide disparities in workload within schools requires further inquiry.

College Staff Attitudes

Another important measure of academic management effectiveness is the attitudes and opinions of those responsible for execution of teaching and administrative functions. As the system has become more decentralized, local administrators also become responsible for academic quality and most colleges indicate they are unaware of how they are evaluated by the department or the State Board. There actually appears to be a vacumn as Local Boards feel that the department is overseeing the general management and quality of instruction at each school and they do not often involve themselves with these issues. Departmental officials acknowledge that there are significant differences among the schools, but there does not appear to be a uniform approach to identifying or to dealing with these differences.

JLARC considers faculty opinions particularly useful in evaluating the VCCS performance since the system is decentralized and institutional performance has not been systematically evaluated by the department or State Board. Faculty opinions were requested regarding fifteen academic management questions identified during the course of the JLARC review on a scale from 1 (strongly agree) to 5 (strongly disagree). The first two categories, strongly and mildly agree, were collapsed into one total as "agreement" and mildly and strongly disagree were combined as "disagreement" for each question. Responses of full-time teachers were relied on as most meaningful in situations that apply to educational quality Teaching and administrative faculty were considered together for questions applying generally to areas of faculty interaction.

A significant number of unsolicited comments received, indicates a strong desire of the faculty to participate in a self evaluation of the community college system. Although an individual's perceptions reflect his background and personal vantage point, JLARC found that faculty opinions corresponded to many observations made during campus visits and other independently gathered data.

Faculty opinions are grouped into two general categories of academic management--relating to instructional quality and relating to management quality. The displays on the following pages show system-wide teacher and administrator agreement on each question. Despite several significant areas of disagreement, the VCCS faculty reported a high degree of commitment to the community college purpose and an unusual sense of dedication and morale.

Instructional Quality

In response to eight questions regarding instructional quality, the most significant problem seems to be student skill level. Approximately two-thirds of the teaching faculty felt too many students lacked the fundamental skills needed to do the work required in their classes. A substantial number of faculty agreed with this statement in all but three schools. Three other quality indicators can be associated with skill level--*compromised standards, inaccurate course grades* and *inappropriate counseling*.

System-wide a majority of the teaching faculty did not see these three areas as problems. Nonetheless about one in every three faculty either felt that counseling was not adequate or that standards were being compromised or both. In addition, about one in every five felt that grades did not accurately reflect student achievement. This appeared to be truer in some schools than in others. For example, over two-thirds of the teaching faculty at Paul D. Camp agreed that standards were being compromised, and a third felt that grades did not reflect student achievement. At Dabney S. Lancaster and Eastern Shore about half or more of the faculty did not feel the students receive adequate counseling.

Faculty perception of low skill levels and instructional quality compromises may be attributable to the widespread acceptance of open program admissions. The overwhelming belief that developmental courses are appropriate for the VCCS and that mixed student backgrounds are an asset, demonstrate that teaching faculty still believe a diverse student body should be served.

Administrative faculty were less critical of instructional quality system-wide. Generally, they felt there were fewer students lacking fundamental skills, counseling was adequate, and standards were not compromised. These opinions might reflect a difference in role, or they may denote a substantial difference in the perception of the community college purpose.

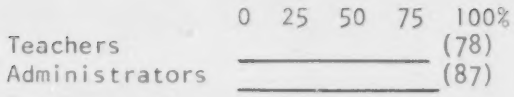
Academic Management Quality

VCCS teaching and administrative faculty tended to disagree on more questions of academic management. On two questions relating to teacher/administrator involvement, (Administrative Support and Curriculum Planning), there is significant difference system-wide. Over three-fourths (83%) of the administrators agreed that the faculty were supported compared to only 62% of the teaching faculty. Nonetheless, a large number of teachers at a number of schools did not feel they received adequate support from the administrators. In particular, less than a third of the faculty at Dabney S. Lancaster, Eastern Shore and Patrick Henry felt the administrators were supportive. A similar difference existed between the teachers and the administrators on whether or not the faculty was highly involved in decisions related to curriculum planning and institutional development. A total of 81% of the administrators said they were, whereas only 61% of the teachers indicated a similar response. In contrast, there was general agreement at all schools that faculty are well prepared to teach in the community college system and a system-wide attitude that faculty salaries are too low (ever though VCCS faculty turnover is not high).

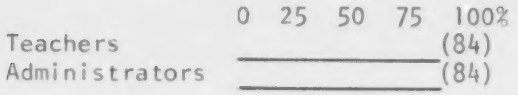
Although less than a third of all faculty responded that there were not enough full-time teachers employed, responses by school were strongly associated with the extent of part-time faculty use.

QUESTIONS RELATED TO ACADEMIC MANAGEMENT QUALITY
(% Faculty and Administrative Agreement)

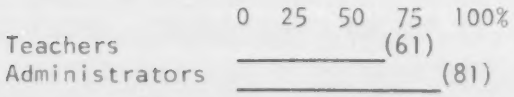
COURSE AND PROGRAM CONTACT UPDATED



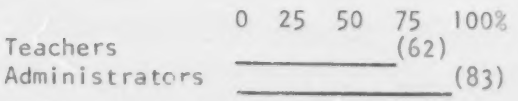
FACULTY WELL-PREPARED FOR VCCS



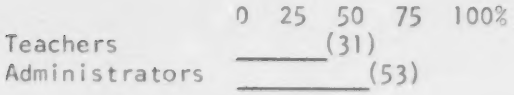
FACULTY INVOLVED IN CURRICULUM PLANNING



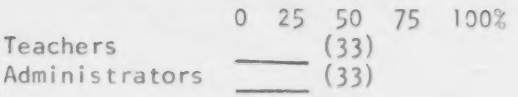
ADMINISTRATORS SUPPORT FACULTY



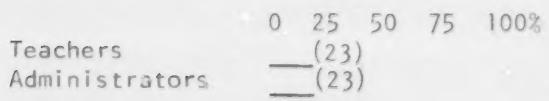
FACULTY NOT EVALUATED ENOUGH ON EFFECTIVENESS



NOT ENOUGH FULL-TIME FACULTY

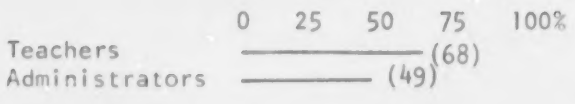


FACULTY SALARIES ADEQUATE

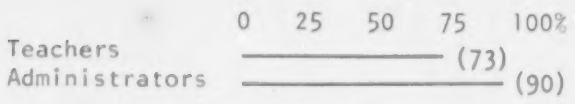


QUESTIONS RELATED TO ACADEMIC MANAGEMENT QUALITY
(% Faculty and Administrative Agreement)

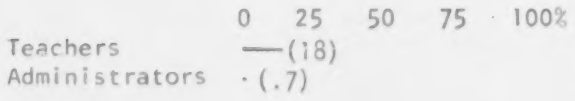
STUDENTS LACK FUNDAMENTAL SKILLS



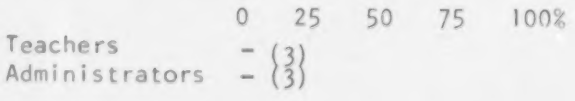
MIXED STUDENT BACKGROUNDS IS A DEFINITE ASSET



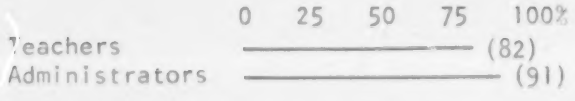
CLASS SKILL LEVEL TOO VARIED FOR TEACHER EFFECTIVENESS



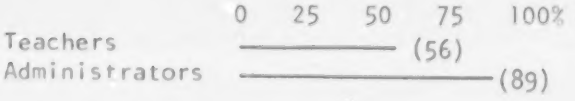
REMEDIAL COURSES DO NOT BELONG TO VCCS



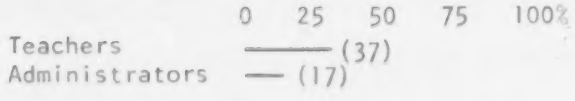
TRANSFER COURSES TAUGHT AT APPROPRIATE LEVEL



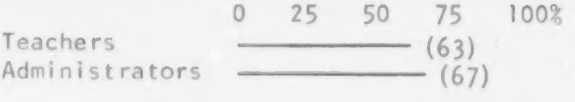
STUDENTS RECEIVE ADEQUATE COUNSELING



STANDARDS COMPROMISED TO KEEP ENROLLMENT



GRADES REFLECT STUDENT ACHIEVEMENT



Conclusion

Responses to both instructional quality and management questions generally reflect a satisfied and involved faculty in the VCCS. Many faculty members took the opportunity to comment favorably about the community college concept and its importance to the community. Although many expressed dissatisfaction with specific issues, most were pleased to be part of this educational effort. Teachers responded overwhelmingly that they liked to teach at a community college. Unsolicited comments on the survey were less complimentary of VCCS in regard to some professional working conditions including--excessive number of administrators, non-productive meetings and inadequate salaries.

The concept of a community college requires teachers and administrators who are in harmony with the purposes and goals of the school and who possess the management and teaching skills necessary for success. At the present time, the VCCS does seem to have developed the kind of system-wide staff that can contribute to a successful educational experience. However, the JLARC faculty survey did identify a number of academic issues where a substantial difference exists between teachers and administrators. The State Board, the department and the colleges should focus their attention on these differences, identify VCCS or institutional policies or practices that contribute to lack of cooperative atmosphere, and take corrective action as appropriate to achieve more effective academic management.

END NOTES

1. Virginia, Commission on Vocational Education, Vocational and Technical Education in Virginia Present and Future Needs, (Richmond, Va., 1963).

2. Virginia, General Assembly, Acts of Assembly, Regular Session 1964, Chapter 405, p. 672.

3. Virginia, Commission on Higher Education, Report of the Higher Education Study Commission, (Richmond, Va., 1965), p. 22.

4. Ibid., pp. 22-23.

5. Virginia, General Assembly, Acts of Assembly, Regular Session 1966, Chapter 679, p. 1137.

6. Some Philosophical and Practical Concepts For Broadening the Base of Higher Education in Virginia, Eric Clearinghouse for Junior Colleges Topical Paper No. 19, (Los Angeles: University of California, 1971),

7. Code of Virginia (1950), Section 23-218.

8. Virginia, State Board for Community Colleges, Policies, Procedures, and Regulations Operating Manual, Vol. 1 (Richmond, Va., 1972), Section 6.22, p. V1-8.

9. Reed, M. Douglas, Some Relationships Between CGP Performance & Course Success for Students Entering CVCC in 1971-72, (Lynchburg, Va.: Central Virginia Community College, 1972).

10. Virginia, Department of Community Colleges, Office of Educational Programs, Memorandum from Mary M. Guines, Coordinator of Educational Programs, November 12, 1974.

11. Community colleges requiring the CGP test are: Blue Ridge, Central Virginia, Dabney S. Lancaster, Danville, Eastern Shore, John Tyler, New River, Patrick Henry, Paul D. Camp, Piedmont Virginia, Rappahannock, Southwest Virginia, Tidewater, and Wytheville. Germanna Community College requires students to take a locally developed test.

12. Dean of Student Services, Lord Fairfax Community College to Ray D. Pethtel, December 11, 1974.

13. Leland L. Medsker & Dale Tillery, Breaking The Access Barriers: A Profile of Two Year Colleges, (New York: McGraw-Hill, 1971), p. 63.

14. Virginia, Department of Community Colleges, Division of Curriculum Planning, State Curriculum Guide for 1973-74, (Richmond, Va., 1973).

15. Enrollment in Art at Lord Fairfax is reported by the department to be an error in coding and has subsequently been corrected. Students enrolled in Art at Virginia Highlands, as well as those graduating from the same program are reported by the department as being Theater Art majors, an approved curriculum. Since no code was available for Theater Art majors,

the school reported the students in the Arts curriculum. Students reported as enrolled in Art, at Tidewater Community College were, according to the department, enrolled in other curricula. Administrators at Tidewater experimented with enrollments by allowing students to enroll by objective rather than by an actual approved curriculum. The department reports that no courses have been offered that are not approved.

16. Dorothy M. Knoell and Leland L. Medsker, From Junior to Senior College: A National Study of The Transfer Student, (Washington; American Council on Education, 1965), and Illinois Council on Articulation, "Performance of Transfer Students within Illinois Institutions of Higher Education", Preliminary Report #1, (Springfield, Illinois, 1969).

17. Frank A. Bucci, "Academic Performance of Transfer Students from Two-year Colleges", The Journal of the National Association of College Admissions Counselors, May, 1970, Volume 15.

18. Virginia, Department of Community Colleges, Division of Curriculum and Instruction, Curriculum Master Plan for Occupational-Technical Education, (Richmond, Va., 1970).

19. Students reported as enrolled in Commercial Art, Industrial Technology, and Radio/T.V. Production at Tidewater Community College, are, according to the department, enrolled in other curricula. Administrators at Tidewater experimented with enrollments by allowing students to enroll by objective rather than by an actual approved curriculum. The department reports that no courses have been offered that are not approved.

20. Students reported in Nursing at Paul D. Camp are taking academic courses at the school. The nursing and other clinical courses are being taken at the Louise Obici School of Nursing, a local nursing school. These students are registered at both schools but will receive this nursing degree from the Louise Obici School. Southwest Virginia Community College reported enrollment in Mental Health for lack of a better classification. The students were apparently part of a three credit seminar held at the school in Mental Health. JLARC is awaiting documentation on the subject matter of the course to determine the appropriateness of its being offered. J. Sargeant Reynolds reported enrollment in Radiology. A letter of intent has been submitted, however, the program has not been approved by the council.

21. JLARC reclassification is described in detail in the Technical Appendix.

22. Code of Virginia (1950), Section 23-214.

23. Virginia, State Council of Higher Education for Virginia, "Policies for the Coordination of Continuing Education for State Controlled Institutions of Higher Education in Virginia". (Richmond, Va., 1972).

24. Virginia, State Board for Community Colleges, Policies, Procedures, and Regulations Operating Manual, Vol. 1 (Richmond, Va., 1972), Sections S. 13, S. 14, and S. 18, pp. V-3, V-4 and V-7, V-8.

25. James L. Wattenbarger, "The Community Junior College: Target Population, Program Costs, and Cost Differentials", National Educational Finance Project, Planning to Finance Education, pp. 207-210.

26. J. Andrew Archer, "Fall & Winter Quarter Hourly Enrollment Summaries, Fall 1972-Winter 1974", (Roanoke, Va.: Virginia Western Community College, 1974), pp. 1-2.

27. Letter from Dr. Dana B. Hamel, Chancellor, Virginia Community Colleges, dated November 12, 1974.

28. In the 1974-76 Biennium Budget Exhibit for Special Training, the statement is made that (training) programs terminate when known needs for new employment are met. p. 22.

29. Meeting with Dr. Daniel C. Lewis, Chairman, State Board of Community Colleges, November 19, 1974.

30. Virginia Metal Products hired an additional 20 trainees in January, 1975 bringing the total hired to 26 out of 65.

31. Department of Community Colleges, Office of the Vice-Chancellor, Memorandum from S. A. Burnette, February 10, 1975.

32. Department of Community Colleges, The Virginia Department of Community Colleges Management Information System Vol. 1, (Richmond, Va., 1972),

33. 1973-1982 Enrollment Projections (Form L-1) prepared by Lord Fairfax Community College dated September 20, 1972.
1973-1982 Enrollment Projections approved by State Council for Higher Education dated January 17, 1973.

34. Virginia Commission on Higher Education, Report of the Commission on Higher Education, (Richmond, Va., 1974), p. 8.

35. State Board for Community Colleges, Policies, Procedures & Regulations, Operating Manual, Vol 1, (Richmond, Va., 1972), p. 111-5.

APPENDICIES

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Agency Responses

- Department of Community Colleges
- JLARC additional comments
- Council of Higher Education
- Division of the Budget

TECHNICAL APPENDIX

Part 1 SURVEYS

Three surveys were conducted for the community college study: one of students, one of faculty, and one of counselors. A brief summary of each follows:

Student Survey

A survey was conducted of students enrolled in the Spring term of 1974, the most recent term for which the Department of Community Colleges could provide addresses. A random sample of students was selected for each of the 23 separate community colleges and stratified according to the four principal categories used by the VCCS: developmental, unclassified, occupational-technical and university parallel. To insure adequate representation of the smaller schools, a minimum of about 60 students were sampled at each school with more being selected for larger schools like Northern Virginia (300) Tidewater (165) and J. Sargeant Reynolds (95).

Since the number sampled at each school did not necessarily reflect the exact size of that school in relation to the entire system it was necessary to readjust the results for each school. This was done by weighting the responses in direct proportion to the actual number of students enrolled in each category at each school. (See explanation at end of section on the actual procedure used in weighting). Had this procedure not been used and the sample drawn in proportion to the exact size of each school a third of the sample would have come from Northern Virginia while only .4% would have come from Eastern Shore, one of the smallest schools in the system. With a sample of 1,000 this would have meant only four respondents would have represented that school, one for each of the four categories! Using the weighting method was preferable in that it guaranteed at least a minimum number of students would be sampled at each school.

The sample at each school was generally divided equally among the four categories unless (1) the school had either no developmental students or not enough to equal the other categories, in which case, all developmental students were sampled at that school, and (2) the school reported a high percentage of unclassified students. In such schools, a larger number of students were sampled in this category in an effort to help minimize statistical error among this group. A total of 1838 students were sampled. The distribution of the sample in the four categories is shown below.

Total Sampled	N = 1838
Developmental	293
Unclassified	765
Occupational/Technical	390
University Parallel	390

The questionnaires were mailed out the last week in September, 1974. Included along with the questionnaires was a prepaid, addressed envelope for each respondent. A total of 739 (40%) usable questionnaires were returned.

Phone Follow-up. Given the fact that 60% of the respondents did not

reply, a key question must be raised as to whether those who did not reply differed significantly from those who did. To find out, a random sample of 78 non-respondents (stratified by school and by category) was selected to be followed up in a phone interview using the same questions as employed in the mail questionnaire. (Some of the less significant items were deleted to shorten the length of the interview). The opinions of these 78 non-respondents were then compared to those who did return a questionnaire.

In brief, the two groups did not differ significantly in age, sex, race or marital status. (A chi-square was used to test for significant differences in making all comparisons). Nor did they differ as to whether they were full or part-time, day or evening students, or by type of program; i.e., university parallel, occupational-technical, developmental, and unclassified--either by their own definition or ours. (See discussion about classification procedure in Part II of this appendix).

However, the two groups did differ significantly as to the type of degree they expected to receive ($p<.005$). More non-respondents expected to receive an AA/AS degree while more respondents indicated they expected to receive an AAS degree. There was, however, no significant difference between the two groups as to whether or not they expected to receive a degree, only the type. This difference could be explained in part by the fact that the interviewers were frequently able to clarify any confusion the interviewees might have had over the two types of degrees.

There also was a significant difference as to whether or not the individual was currently enrolled at the community college ($p<.01$). More non-respondents indicated they were not now enrolled. This may have been because they were contacted almost six weeks after the original mailout--long enough for more to have dropped out.

The only other difference found involved students' purpose in attending the community college. Non-respondents were more likely to say it was because the school was nearby while respondents more frequently checked "the courses/programs they wanted were there" ($p<.001$). None of these differences seemed to carry over to any of the other questions. It seems doubtful, therefore, that there was any *systematic* bias between non-respondents and respondents in the student survey.

Counselor Survey

A second mail survey was conducted of each counselor and counselor co-ordinator in the community college system--a total of 132. Questionnaires for this survey were mailed the last week in October, 1974. A total of 111 questionnaires were returned of which 109 (83%) proved to be usable. Additional validation was not necessary because the return rate was so high.

Faculty Survey

A third survey was conducted of the community college faculty. Included in this survey were three distinct groups: teaching faculty, faculty administrators and lecturers. The latter were randomly sampled from a list of lecturers employed in the Spring of 1974, the latest then available. As it turned out, this proved a

definite drawback. A number of these lecturers were not teaching in the Fall and, thus, did not fully respond to the survey. Others felt that as part-time teachers, they were not in an adequate position to answer many of the questions. As a result, the findings from this group were not fully reported. These problems did not exist with the other two groups because they were randomly sampled from faculty currently employed by the community college system.

A total of 720 faculty were sampled out of an original 3,361 teachers, administrators and lecturers. The sample was stratified according to these three groups for each community college. As in the student survey the results for each school had to be weighted in direct proportion to the actual number of faculty employed in each of these categories at each school.

The questionnaires were mailed the third week in November, 1974. To insure an adequate return, a reminder was sent out to each respondent the day after Thanksgiving. A usable questionnaire was received from 425 (59%) of the original 720 faculty.

Faculty Productivity Because of the importance of getting an accurate estimate of faculty productivity JLARC added a number of late returns to the respondents from the faculty survey for this analysis only. This brought the return rate up to 80% for the teaching faculty. Based on those additional returns an average faculty productivity range was calculated for each school. The range represents the likelihood of obtaining a similar value were the study to be repeated. For example, the average productivity found for Northern Virginia was 401.0 student credit hours. The odds are 95 out 100 that were the study to be repeated the productivity for Northern Virginia would fall between 330.1 and 471.9. The exact ranges for each school are shown on the next page. The formula used for calculating these ranges is given below.

$$\text{standard error} = \frac{s}{\sqrt{n}} \times \sqrt{1 - \frac{n}{N}}$$

s = standard deviation
n = number of respondents
N = total number of faculty

A summary of the pertinent facts related to each of the three surveys is listed below. On the next page is a table showing the number of individuals sampled in each survey at each community college.

Type of Respondent	Population	Sample	Usable Returns	Response Rate	Date of Mailing
Students[1]	42,259	1,838	739	40%	9/27
Counselors	132	132	109	83%	10/31
Faculty[2]	3,361	720	425	59%	11/22

[1]The student sample consisted of those enrolled in Spring of 1974.

[2]The faculty sample consisted of three groups: current teaching faculty, current faculty administrators, and lecturers employed in Spring, 1974.

AVERAGE FACULTY PRODUCTIVITY RANGE
FALL QUARTER, 1974

School	Number Teaching Faculty	Number FTEF	Average Productivity	Range Low	Range High
Northern Virginia	329	314.0	401.0	330.1	471.9
Patrick Henry	18	18.0	389.5	335.3	443.7
Tidewater	174	173.9	344.7	292.9	396.5
Virginia Western	108	103.6	356.8	304.1	409.5
Blue Ridge	38	36.6	328.9	273.1	384.7
J. Sargeant Reynolds	91	80.1	322.7	277.4	368.0
Thomas Nelson	100	84.7	320.3	275.0	365.6
Southwest Virginia	45	44.5	304.7	248.5	360.9
Piedmont Virginia	29	29.0	302.8	231.3	374.3
Lord Fairfax	33	30.2	285.7	242.2	329.2
Central Virginia	65	62.8	269.3	241.6	297.0
John Tyler	69	68.0	254.2	210.1	298.3
Paul D. Camp	31	31.0	240.7	208.6	272.8
Dabney S. Lancaster	27	26.4	236.4	200.5	272.3
Danville	66	64.1	230.5	190.8	270.2
Wytheville	48	48.0	229.0	174.9	283.1
Mountain Empire	23	23.0	228.1	186.5	269.7
Germanna	35	33.8	223.2	165.0	281.4
New River	46	40.3	222.9	192.4	253.4
Virginia Highlands	44	43.3	214.4	184.2	244.6
Southside Virginia	36	34.5	209.1	141.3	276.9
Eastern Shore	11	11.0	207.0	175.6	238.4
Rappahannock	32	30.6	200.8	161.5	240.1

Source: JLARC Faculty Survey, November, 1974.

NUMBER OF INDIVIDUALS SAMPLED
IN EACH SURVEY BY COMMUNITY COLLEGE

	Type of Respondent		
	Student	Counselors[1]	Faculty[2]
Blue Ridge	59	3	30
Central Virginia	60	4	30
Dabney S. Lancaster	95	3	30
Danville	60	4	30
Eastern Shore	45	2	30
Germanna	53	3	30
J. Sargeant Reynolds	95	9	30
John Tyler	60	5	30
Lord Fairfax	81	3	30
Mountain Empire	45	2	30
New River	51	4	30
Northern Virginia	300	32	50
Patrick Henry	60	2	30
Paul D. Camp	45	3	30
Piedmont Virginia	95	3	30
Rappahannock	80	3	30
Southside Virginia	89	4	30
Southwest Virginia	60	6	30
Thomas Nelson	60	8	30
Tidewater	165	14	40
Virginia Highlands	60	2	30
Virginia Western	60	9	30
Wytheville	60	4	30
Total	1838	132	720
Returned	739	109	425

[1]Includes all counselors and counselor coordinators employed by the VCCS.

[2]Includes Teaching Faculty, Faculty Administrators and Lecturers.

Weighting

Both the faculty survey and the student survey were stratified at each community college according to certain important segments each population contained; namely, categories of students by program in the case of students, and teachers, administrators and lecturers in the case of the faculty. Since the number of respondents selected at each school was not directly proportional to the number in the total community college system, it was necessary to weight the responses according to the actual number of individuals in a particular segment at a given school. An example of how the responses were weighted to adjust for this follows:

STUDENT SURVEY
Blue Ridge Community College

	Developmental	Unclassified	Occ./Tech.	Univ. Parallel	Total
Total Enrolled in Spring 1974	14	359	429	224	1,026
No.of Respondents	6	7	6	6	25
Weight[a]	2.3	51.3	71.5	37.3	---

[a]Total enrolled divided by number of respondents

These weights were then multiplied by the number of responses to a particular question. If for instance, 3 of the 6 developmental students indicated they were female, then 3 x 2.3 or 6.9 (7 with rounding) of all developmental students at Blue Ridge could be expected to be female. On a system-wide basis, by program or by school, such figures are statistically reliable within generally recognized levels of tolerance.

PART II CLASSIFICATION AND RECLASSIFICATION

For the Spring term of 1974, the VCCS reports that 18% of the students enrolled were in university parallel, 30% in occupational-technical, 7% in developmental with the remaining 45% counted as unclassified. Presumably, many of those in this last category were individuals attending the community college for their own personal enjoyment, not majoring in any of the other three programs and not pursuing a degree. In any case, JLARC used these four categories to stratify its sample in the student survey. The results of the survey revealed substantial discrepancies between the way in which the VCCS classified a student and what many of the students reported.

For instance, one of the respondents from Dabney S. Lancaster who was reported as unclassified by VCCS reported his curriculum as law enforcement, gave his purpose in attending as increasing his present job potential, checked occupational-technical as the program he was enrolled in, and indicated he expected to receive a degree. He listed his current job as a patrolman.

Another respondent, a girl from Danville Community College, listed her major field of study as practical nursing. Her purpose in attending was given as preparing for a new job or career and she indicated she expects to be awarded a certificate when she has completed her course work. This person, was also carried by the VCCS as unclassified.

The most puzzling cases were those who graduated. One respondent from Blue Ridge who indicated that he had already graduated listed university-parallel as the program he was in and his purpose in attending as transferring to a four-year school. This student had been full-time with a major in education. VCCS, however, has this student categorized as unclassified.

These are not isolated cases. Examples like these were found to exist in varying degrees at every school. In some cases, the discrepancies were more substantial than in others. By far, the largest inconsistencies were among those who had been categorized as unclassified. However, there were large differences among those classed as developmental. Since these students represent such a relatively small number of the total enrollment, the effect in this category is less dramatic.

These inconsistencies placed JLARC in a dilemma. If the data were analyzed using the VCCS classifications, the results would be clouded by these discrepancies. Reporting student opinion about the students in occupational-technical programs would leave out the opinions of people like the patrolman at Dabney S. Lancaster. The same would be true of the other programs.

To resolve this dilemma, JLARC set about reclassifying the students on the basis of their responses to the student questionnaire. Although information from the entire questionnaire was used in this reclassification procedure, four questions proved to be key. One asked what the students' original purpose was in attending the college. Was it -- to transfer, to prepare for a new job, to increase present job skills or simply for personal enjoyment. Another pertained to his field of study. A third asked the student directly which program he was in, and a fourth dealt with the type of degree sought, if any.

Responses to other questions also assisted in properly classifying the

students. Questions relating to the students' current and future occupations helped distinguish which students had an interest in technical fields and which did not. Moreover, to allow for the possibility that the student might have changed his purpose and the VCCS simply had not yet altered their records, a question related to such a possibility was also taken into account. Of course, responses to questions like age, marital status, full-time, part-time and whether the student had graduated, were also used. It should be noted that *in all cases, the benefit of the doubt was given to the VCCS.* That is, a change was made only when overriding evidence was available.

This is not to say there were no inconsistencies in the students' responses. Indeed, there were. At times, the student would not know just what type of degree he was getting (e.g. a student clearly in university parallel with intentions of transferring might put his degree down as AAS or Diploma when both of these are only awarded in occupational-technical programs). Even with these inconsistencies, however, the evidence in most cases was clearly in the direction of one program or another.

As a test of how confusing these inconsistencies were, JLARC performed a reliability study of its reclassification procedure. The staff member given the responsibility as final arbiter in all reclassifications was given 43 questionnaires to classify. The results of his classifications were recorded and set aside. Seven days later, he was given the same 43 questionnaires to classify again. A comparison of the two ratings was made with a resulting 86% agreement. This high rate of agreement was confirmed when another person involved in the reclassification rated the same 43 questionnaires. The same high rate of agreement was found. The resulting reclassification is often referred to as program purpose -- although purpose is just one of the characteristics used to arrive at final category enrollments.

The following table lists the reclassification results.

CHANGE IN VCCS' CLASSIFICATION

	Category			
	U-P	O-T	Dev.	Unclass.
VCCS Enrollment[a]	16% (6,850)	31% (13,206)	8% (3,268)	46% (19,564)
JLARC Reclassification Agreement	94%	96%	53%	24%
Changes	6%	4%	47%	76%
Changed to:				
U-P	--	3%	28%	32%
O-T	6%	--	18%	42%
Dev.	0%	0%	--	2%
Uncl.	0%	1%	*	--

*Less than 1%
[a]Minor differences exist between these figures and actual enrollment due to weighting.
Source: Department of Community Colleges, Quarterly Enrollment Statistics, and JLARC Student Survey, Spring, 1974.

As seen in the table, most of the changes that were made were in the developmental and unclassified categories. However, the changes in these two categories had an appreciable effect on all the others. The next table shows how many students JLARC found to be in each category based upon this reclassification. The table shows how many of those in each category were from the original VCCS classification and how many came from one of the other VCCS categories based on JLARC's reclassification.

SOURCE OF NEW CLASSIFICATION FIGURES

	Category			
	U-P	O-T	Dev.	Unclass.
JLARC Enrollment [a]	33% (14,084)	51% (21,776)	5% (2,151)	11% (4,877)
Original VCCS category				
U-P	46%	2%	0%	0%
O-T	3%	58%	0%	3%
Dev.	7%	3%	81%	*
Uncl.	45%	37%	19%	97% [b]

[a] Projected
[b] Proportion of new classification accounted for by original VCCS figures.
*Less than 1%

As the table shows, almost half of the university parallel students are now accounted for by the unclassified category. This virtually doubles the enrollment from what would appear in VCCS figures alone. The case is similar for occupational-technical. There, almost a third are made up of unclassified students. This increases the enrollment in this category by over 50% (from 13,206 to 21,776). The impact on developmental is less dramatic on this smaller category and virtually everyone who was classed as unclassified had been in that same category originally. Nonetheless, enrollment in this category went from a high of 19,564 to a low of 4,877, a much more reasonable figure. The implications shown by this dramatic change are discussed more fully in the text. The results of the reclassification by school are shown in the next table.

VCCS & JLARC STUDENT CLASSIFICATION
1973-74 (Spring)

	VCCS Classification				JLARC Classification			
	UP	OT	DEV.	UNCL.	UP	OT	DEV.	UNCL.
Blue Ridge	22%	42%	1%	35%	24%	61%	0%	15%
Central Virginia	27	33	10	30	38	44	7	12
Dabney S. Lancaster	10	33	4	53	14	64	5	18
Danville	19	48	4	29	26	73	1	0
Eastern Shore	57	24	0	19	48	34	0	19
Germanna	28	37	2	34	34	52	10	5
J. Sargeant Reynolds	6	20	9	65	18	63	9	10
John Tyler	14	34	13	39	24	63	5	8
Lord Fairfax	18	24	0	58	29	38	0	33
Mountain Empire	14	48	0	37	12	69	0	17
New River	20	55	1	24	26	58	8	8
Northern Virginia	13	20	8	60	42	42	4	12
Patrick Henry	36	32	5	28	50	48	2	0
Paul D. Camp	25	75	0	0	22	69	0	9
Piedmont Virginia	28	28	3	41	35	39	3	24
Rappahannock	23	26	0	51	37	37	0	26
Southside Virginia	15	32	1	52	20	37	0	43
Southwest Virginia	35	57	5	3	36	59	3	2
Thomas Nelson	18	39	26	17	31	58	11	0
Tidewater	26	21	2	51	43	42	1	15
Virginia Highlands	38	42	5	16	45	52	3	0
Virginia Western	18	41	13	28	26	60	13	0
Wytheville	19	32	11	38	28	51	11	11
System-wide	18%	30%	7%	45%	33%	51%	5%	11%

Source: JLARC Student Survey, Spring, 1974, and Department of Community Colleges.

PART III QUESTIONNAIRES

Samples of each JLARC survey are presented on the following pages. The order is Student Survey, Counselor Survey, and Faculty Survey.

STUDENT QUESTIONNAIRE

COMMONWEALTH OF VIRGINIA
JOINT LEGISLATIVE AUDIT
AND REVIEW COMMISSION
P. O. Box 10227
Richmond, Virginia 23240

September 27, 1974

Dear Student:

The Joint Legislative Audit and Review Commission is now in the process of reviewing the Community College System in Virginia. Student characteristics and opinions will be an important part of our study. We have, therefore, selected a representative sample of students to survey for attitudes about many important elements of their college experience.

You are one of the relatively small number of students selected to receive a questionnaire; it is important that you answer each question as completely and candidly as possible. Your response will be treated in strict CONFIDENCE. Our concern is with collective student opinion and not with that of any one individual.

We realize that you may have graduated, may not plan to return to the community college this fall, or may have taken only a few courses. However, it is important to have a response from everyone surveyed.

Please take just a few minutes to complete the questionnaire and return it to us now. A pre-addressed stamped return envelope is enclosed for your convenience. Your prompt reply will be greatly appreciated.

Sincerely,

Ray D. Pethtel

Ray D. Pethtel
Director

1. Why did you *first* decide to attend a community college? Please indicate your *primary* purpose by checking the one most appropriate reason:

   To transfer to a four-year college. ( )
   To prepare for a new job or career. ( )
   To increase present job advancement potential. ( )
   Personal enjoyment and enrichment. ( )

2. Has your original purpose in attending a community college changed?

   Yes ( ) No ( )

   If Yes, please indicate your present purpose:

   To transfer to a four-year college. ( )
   To prepare for a new job or career. ( )
   To increase present job advancement potential. ( )
   Personal enjoyment and enrichment. ( )

3. What is your present major field of study (curriculum)?

   _____

4. Please indicate from the list below *three* important reasons you chose to fulfill your educational objective at this community college rather than go to another school. Please check ONLY three, indicating the importance of each as follows:

   1 = most important
   2 = next most important
   3 = third most important

   Courses/programs you wanted were here. _____
   Less expensive to attend. _____
   Grades were too low for other schools. _____
   Other schools were full. _____
   Personal reasons (for example: girl/boy friend, family responsibilities, etc.) _____
   It's close to where you live. _____
   Considered no other alternative. _____
   Other (please specify) _____

5. If you had it to do over, would you make the same decision to attend this school? Yes ( ) No ( )

   If No, why not? _____

6. **Are you planning to enroll in any community college courses this fall?**

Yes ( ) No ( )

If No, please indicate as many reasons as apply:

- Graduated. ( )
- Can't devote enough time to studying. ( )
- Educational objective changed. ( )
- Classes are not offered when you can take them. ( )
- Courses are inadequate for your needs. ( )
- Financial reasons. ( )
- Transferring to another two-year school. ( )
- Finished the course you were interested in. ( )
- Grades not good enough to return. ( )
- Going to work. ( )
- Getting married. ( )
- Joining the military. ( )
- Moving from the college area. ( )
- Other (please specify) _____

_____

7. **If you do not plan to enroll in any community college courses this fall, do you expect to do so at some future date?**

Yes ( ) No ( )

8. **Have you had any trouble getting the classes you want?**

Yes ( ) No ( )

If Yes, why?

- Classes you wanted were filled at registration. ( )
- Classes were not offered at a time you could take them. ( )
- Classes you wanted simply weren't offered. ( )
- Other (please specify) _____

9. **Were you admitted to the program/course of your first choice when you started at the community college?**

Yes ( ) No ( )

If No, why not?

- Program/course was full. ( )
- Needed some developmental work. ( )
- Other (please specify) _____

(Please turn page)

10. **Have you received counseling from the community college "counseling service"?**

Yes ( ) No ( )

If No, please indicate the reason:

- Never needed it. ( )
- Tried, but never able to see a counselor. ( )
- Heard it was no good. ( )
- Not aware of such a service. ( )
- Would rather talk to your faculty advisor. ( )

11. **If you have had trouble getting to see a counselor is it because:**

- The service is never open when you can go. ( )
- It's always so crowded. ( )
- The counselor is never there. ( )
- Other (please specify) _____

12. **Please indicate if you have sought counseling from the "counseling service" for any of the reasons listed below and whether or not you felt the assistance you received was helpful.**

REASONS	SOUGHT	HELPFUL (Check One) Yes	No
Interpretation of test scores.	( )	( )	( )
Improving grades.	( )	( )	( )
Changing major.	( )	( )	( )
Future occupational plans.	( )	( )	( )
Improving study habits.	( )	( )	( )
Staying in school.	( )	( )	( )
Getting off academic probation.	( )	( )	( )
Selecting good classes.	( )	( )	( )
Selecting a transfer college.	( )	( )	( )
Future educational plans.	( )	( )	( )
Personal or social problems.	( )	( )	( )
Family problems.	( )	( )	( )
Understanding yourself.	( )	( )	( )
College policies.	( )	( )	( )
Obtaining employment while in college.	( )	( )	( )
Finding employment after finishing college.	( )	( )	( )
Obtaining financial aid.	( )	( )	( )
Other.	( )	( )	( )

13. What is your overall opinion of the quality of the counseling you've received from the "counseling service"?

Excellent ( ) Very Good ( ) Average ( )
Below Average ( ) Poor ( )

14. Estimate the average number of hours you spend with a counselor from the "counseling service" each quarter.

_____

15. Have you ever sought counseling from anyone else at the community college?

Yes ( ) No ( )

If Yes, who:

Classmates ( ) Faculty Advisor ( )
Peer Group Counseling ( ) Teachers ( )
Administrators ( )

16. How would you describe the classrooms at your college, (consider ventilation, lighting, and space)?

Excellent ( ) Good ( ) Average ( )
Fair ( ) Poor ( )

17. Would you evaluate some of the other facilities on your campus. Questions A and B pertain to those facilities you DO USE. Question C pertains to those you DO NOT USE

A. Check the facilities you DO USE.	Library ( )		Language Labs ( )		Workshops ( )		Science Labs ( )	
B. For each facility you DO use:	Check One Yes	No	Check One Yes	No	Check One Yes	No	Check One Yes	No
Are you satisfied with the quantity and quality of materials available?	( )	( )	( )	( )	( )	( )	( )	( )
Are you satisfied with hours of operations?	( )	( )	( )	( )	( )	( )	( )	( )
Is the facility within reasonable distance from classes?	( )	( )	( )	( )	( )	( )	( )	( )
Do you feel the facility contributed to your education?	( )	( )	( )	( )	( )	( )	( )	( )

C. For each facility you DO NOT use, indicate the reason by placing a check in the appropriate box.

	Library	Language Labs	Workshops	Science Labs
Haven't needed it thus far.	( )	( )	( )	( )
Not open when you needed it.	( )	( )	( )	( )
Tried using it, but was of no help.	( )	( )	( )	( )
Other	( )	( )	( )	( )

Comments _____

_____

18. How far do you live from the community college?

Up to two miles ( ) 21 - 30 miles ( )
2 - 5 miles ( ) 31 - 45 miles ( )
6 - 10 miles ( ) 46 miles and over ( )
11 - 20 miles ( )

19. If you do not provide your own transportation, do you have a problem getting to your classes at the community college?

Yes ( ) No ( )

If Yes, please explain _____

20. If you have young children and need day care facilities, are such facilities available to you?

Yes ( ) No ( )

If Yes,

Are they reasonably priced? Yes ( ) No ( )

Are they reasonably close to the community college or your home? Yes ( ) No ( )

Are they provided by:

Community College ( ) Church ( )
Private ( ) Other ( )

21. On the average, how long does it take you to get from home (or work) to class?

Up to 15 minutes ( ) 31 to 60 minutes ( )
15 to 30 minutes ( ) More than 60 minutes ( )

22. Have you applied for financial aid through the community college?

Yes ( ) No ( )

23. Did you receive financial aid through the community college? Yes ( ) No ( )

If Yes, in what form?

Loan ( ) Grant ( ) Work Study ( )

24. Are you currently employed:

Full-time? ( )

Part-time? ( )

Not employed? ( )

If you are employed, is your employer paying for,

Part ( ) All ( ) None ( ) of your college education?

25. What is your present or most recent occupation?

_____

26. After completing your community college education, do you expect to return to or remain in the same occupation?

Yes ( ) No ( )

If No, what occupation do you plan to enter?

_____

27. If you have graduated in an occupational-technical field, was the curriculum you were enrolled in at the community college related to your present job?

Yes, very much ( ) No, very little ( )

Yes, somewhat ( ) Not employed ( )

28. How old are you?

16 or under ( ) 23 - 30 ( ) 41 - 50 ( )

17 - 22 ( ) 31 - 40 ( ) 51 - 64 ( )

65 or over ( )

29. Do you consider yourself:

Black or Afro-American? ( ) Oriental? ( )

White? ( ) American Indian? ( )

Spanish surnamed American? ( ) Other? ( )

30. Are you: Male ( ) Female ( )

(Please turn page)

31. What is your marital status?

Married ( ) Single ( ) Divorced ( )

Widowed ( ) Separated ( )

32. Do you

Own a home? ( ) Rent? ( ) Live with parents? ( )

33. Are you a full-time (12 hours or more) student? ( )

part-time (less than 12 hours) student? ( )

34. In what program are you enrolled?

University Parallel ( )

Occupational Technical ( )

Developmental ( )

Unclassified ( )

35. Have you been or do you expect to be awarded some kind of degree from the community college?

Yes ( ) No ( )

If Yes, please indicate which type of degree.

AA/AS Degree ( ) Certificate ( )

AAS Degree ( ) Diploma ( )

36. Are most of your classes:

Day ( ) Evening (after 5:00 p.m.) ( )

37. How well do you think your community college experience has served your purpose?

The most it could ( ) Less than you expected ( )

As well as you expected ( ) Not much at all ( )

Please use the space provided below or attach an additional sheet for any comments you wish to make.

Thank you for your cooperation.

COUNSELOR QUESTIONNAIRE

1. What is your title? _____

2. Are you a ___ full time counselor?

___ part time counselor?

If you are a part time counselor, how much of your time is spent in counseling related activities? _____

3a. What is your highest educational attainment?

Bachelors Degree ___ Doctorate ___

Bachelors Degree Plus ___ Other (please specify) ___

Masters Degree ___ _____

Masters Degree Plus ___

3b. Is this degree in counseling? (For example, guidance, counseling, student personnel services, etc.)

Yes ( ) No ( ) Please specify _____

If No, how did you come to be a counselor? _____

_____

4. Indicate your years of experience in each of the following categories prior to joining the community college.

Teaching ___ Educational Administration ___

Counseling ___ Business and Industry ___

Other (please specify) _____

_____

5. How many years have you been a counselor at <u>this</u> college? _____

(over)

6. Indicate the number of hours per week you are usually available for counseling.

Between 8 a.m. and 5 p.m. ___

After 5 p.m. ___

Do any of these hours apply to Saturday? Yes ( ) No ( )

If Yes, how many? _____

7a. Are your meetings with students:

By appointment ___

On a walk-in basis ___

Both of the above ___

7b. Do you think students have trouble getting to see you?

Yes ( ) No ( )

If Yes, what do you feel is the problem? _____

_____

8. How many different students do you meet with individually during an average term? _____

9. On any given day, how long would you say that you spend meeting with an individual student? _____

10. Of those students you do counsel, please estimate the <u>percentage</u> you see:

Once a term ___	6 - 7 times ___
2 - 3 times ___	8 - 9 times ___
4 - 5 times ___	More than 10 ___

(total should equal 100%)

11. Are students specifically assigned to you for counseling?

Yes ( ) No ( ) If Yes, how many? _____

12. Are faculty members assigned any duties as advisors? Yes ( ) No ( )

If Yes, does this reduce your workload as a counselor?

Yes, very much ( ) Yes, somewhat ( ) No, not at all ( )

13. Below is a list of typical problems for which students might seek help from a counselor. Using a scale of 1 (very frequent) to 5 (very infrequent), please indicate for each the frequency with which you encounter the problem.

Very Frequent				Very Infrequent	Problems
1	2	3	4	5	Interpretation of test scores
1	2	3	4	5	Improving grades
1	2	3	4	5	Changing major
1	2	3	4	5	Future occupational plans
1	2	3	4	5	Improving study habits
1	2	3	4	5	Staying in school
1	2	3	4	5	Getting off academic probation
1	2	3	4	5	Selecting good classes
1	2	3	4	5	Selecting good instructors
1	2	3	4	5	Selecting a transfer college
1	2	3	4	5	Future educational plans
1	2	3	4	5	Personal or social problems
1	2	3	4	5	Family problems
1	2	3	4	5	Understanding themselves
1	2	3	4	5	College policies
1	2	3	4	5	Obtaining employment while in college
1	2	3	4	5	Finding employment after finishing
1	2	3	4	5	Obtaining financial aid
1	2	3	4	5	Other (please specify) _____

(over)

14. For each of the following statements, please indicate your response on the following scale:

1 - "Strongly Agree"

2 - "Mildly Agree"

3 - "Indifferent"

4 - "Mildly Disagree"

5 - "Strongly Disagree"

a. ____ One of my biggest problems is getting students to be realistic about their abilities and goals.

b. ____ More students at this community college should be enrolled in developmental courses than is presently the case.

c. ____ The counseling service at this community college needs to do more to help students assess their strengths and weaknesses.

d. ____ Too many recent high school graduates enter this college without the basic skills they need because elementary and secondary schools are not doing the job they should.

e. ____ Developmental courses at this community college should be geared more to students returning to school after several years absence and/or students with limited deficiencies in specific subjects rather than recent high school graduates with general deficiencies.

f. ____ One of my major problems is that when I advise students against entering a program, they can and do disregard my advice.

g. ____ The administration works closely with us (the counseling service) in curricular planning to help ensure better job placement and smoother transfer to four year institutions for our students.

h. ____ The counseling service at this community college needs to do more to help students determine educational and career goals.

Please use the space below (or a separate sheet, if necessary) for any comments you may wish to make about your responses to the preceding statements. _____

_____

_____

_____

15. Below is a list of major areas in which you commonly work with students. Please rank them according to your priorities as a counselor. Use 1 to indicate highest priority, 5 (or higher, if you make any additions to the list) to indicate lowest priority.

___ Identifying student educational and career goals

___ Academic problems

___ Getting students into courses/programs they desire

___ Assessing student capabilities

___ Personal and/or social problems

___ Other (please specify) _____

16. How old are you?

25 or under ___ 26 - 30 ___ 31 - 40 ___

41 - 50 ___ 51 or over ___

17. Are you: Male ( ) Female ( )

(over)

18. Do you consider yourself:

Black or Afro-American?	( )	Oriental?	( )
White?	( )	American Indian?	( )
Spanish surnamed American?	( )	Other?	( )

Please use space below for any additional comments you may wish to make.

FACULTY SURVEY

1. Are you employed full time ( ), part time ( ) at the community college?

2. What is your faculty title? _____

3. How many years have you been teaching at this college? _____

4. How long is your present contract?

   1 yr. ( ) 3 yr. ( ) 5 yr. ( ) Tenure ( ) Lecturer ( )

5. Please indicate the number of years experience you have in any of the following positions prior to joining the community college.

   Teacher (pre-college level) ___
   College Teacher ___
   Business or Industry ___
   Other (specify) _____

   Administrator (pre-college level) ___
   College Administrator ___
   Government ___

6. If you have worked in business or industry, please indicate your job title and the type of work you did. _____

   _____

7. Please indicate your highest educational attainment:

   Associate degree ___ Masters degree ___
   Bachelors degree ___ Masters degree plus ___
   Bachelors degree plus ___ Doctorate ___
   Other (specify) _____

8. Please indicate the major field of study in your highest degree.

   _____

9. If you have an assigned administrative role, please indicate your title and the percent of time each quarter you allocate to this assignment. _____

_____

10. Are you assigned students to advise? Yes ( ) No ( )

If Yes, how many? _____

11. For the Fall Quarter of 1974, please indicate the following information for courses taught for the community college.

	Titles of Courses	Credit Value	Number of Sections	Contact Hours Per Section	Number of Students Per Section
1)					
2)					
3)					
4)					
5)					

12. Please indicate the average number of hours you spend meeting with students each week outside the classroom. _____

13. Do you frequently assist students in obtaining jobs? Yes ( ) No ( )

14. Do you have employment in addition to your community college position? Yes ( ) No ( )

If Yes, what type of employment? _____

15. Please check the activities in which you were involved during the last academic year.

College committees	___	Research	___
Student activities	___	Professional meetings	___
Advanced study	___	In-service Training	___
Curriculum development	___	Community service	___

Other (specify) _____

16. A large number of students enrolled in degree or diploma programs do not complete the program. Please indicate on a scale of 1 to 5, how much you attribute this to each of the reasons listed below.

Reasons	Frequent				Infrequent
Transfer to a four-year school.	1	2	3	4	5
Have failing grades.	1	2	3	4	5
Get employment in their field of training.	1	2	3	4	5
Never intended to get a degree.	1	2	3	4	5
Drop out for personal reasons rather than fail.	1	2	3	4	5
Leave the region.	1	2	3	4	5
Financial problems.	1	2	3	4	5

Other (specify) _____

17. For each of the following statements, please indicate your response on a scale of 1 to 5.

1 = "strongly agree"
2 = "mildly agree"
3 = "indifferent"
4 = "mildly disagree"
5 = "strongly disagree"

- Faculty at this institution are very much involved in decisions in curriculum planning and institutional development. ____
- Salaries in this college are adequate to attract and retain competent faculty. ____
- Course and program content are regularly updated to meet current needs. ____
- Standards are frequently compromised to maintain enrollments in programs. ____
- Faculty at this college are not evaluated enough on the basis of teaching effectiveness. ____

- The proportion of full time faculty at this college is too low. ____

- Administrators at this college are very supportive of faculty. ____

- Too many students entering the courses I teach lack fundamental skills needed to do the work required. ____

- Most faculty members at this college are well prepared to teach at a community college. ____

- Transfer courses in this college are taught at the same level as those of first and second year senior college courses. ____

- Most of my students receive adequate counseling as to what programs to enroll in and which courses to take. ____

- Having students of mixed backgrounds and ages in my classes is a definite asset. ____

- Remedial courses do not belong in a community college. ____

- Grades at this college accurately reflect student achievement. ____

- Skill levels in my classes are too varied for me to be effective. ____

- Books and supplies are available on campus when needed. ____

18. Please evaluate support facilities used to supplement in-class instruction, by answering the following questions. (Check either Yes or No.)

	Library		Language Labs		Workshops		Science Labs	
	Yes	No	Yes	No	Yes	No	Yes	No
a. Are your students required to use this facility?	( )	( )	( )	( )	( )	( )	( )	( )
b. Do you feel this facility is adequately staffed with qualified personnel?	( )	( )	( )	( )	( )	( )	( )	( )
c. Do your students make good use of this facility?	( )	( )	( )	( )	( )	( )	( )	( )
d. Are you satisfied with the hours it is open?	( )	( )	( )	( )	( )	( )	( )	( )
e. Are you consulted about the contents?	( )	( )	( )	( )	( )	( )	( )	( )
f. Are you satisfied with the quality of materials available?	( )	( )	( )	( )	( )	( )	( )	( )
g. Are you satisfied with the quantity of materials available?	( )	( )	( )	( )	( )	( )	( )	( )

Comments:

19. Listed below are a number of elements that are part of a community college. Based upon your experience at this community college, please indicate on a scale of 1 to 5 how important you think each should be in your community college.

	Very Important				Not Very Important
Baccalaureate Transfer Program	1	2	3	4	5
Vocational Technical Program	1	2	3	4	5
Counseling	1	2	3	4	5
Job Placement	1	2	3	4	5
Developmental Program	1	2	3	4	5
Continuing Adult Education	1	2	3	4	5
Community Service	1	2	3	4	5
Institutional Research	1	2	3	4	5
Student Activities	1	2	3	4	5
Curriculum Development	1	2	3	4	5
Planning	1	2	3	4	5
In-service Training	1	2	3	4	5

20. Please indicate, from the list below, your reasons for teaching at a community college (rank 1-2-3). Please chose only 3.

Students at a community college are exceptionally well motivated. ____

It was the best teaching job available. ____

I'm working for an advanced degree at a school nearby. ____

I would like to become a college administrator. ____

It's a chance to make extra money. ____

I prefer teaching advanced technical skills. ____

I'm not interested in research or publishing. ____

The salary is good. ____

I like to teach. ____

Other (specify) _____

21. Please indicate the range of your salary on an annual basis at the community college:

less than 4,000 ( ) 4,000-6,000 ( ) 7,000-9,000 ( )

10,000-12,000 ( ) 13,000-15,000 ( ) 16,000-18,000 ( )

higher than 18,000 ( )

22. Are you male ( ) female ( )?

23. Please indicate your age:

25 or under ( ) 26 - 30 ( ) 31 - 40 ( )

41 - 50 ( ) 51 or over ( )

24. Do you consider yourself:

Black or Afro-American ( ) Oriental ( )

White ( ) American Indian ( )

Spanish surnamed American ( ) Other ( )

Please use the space provided below or attach an additional sheet for any comments you wish to make.

Thank you for your cooperation.

APPENDIX I

Table I-1

AGE OF STUDENTS IN THE
VIRGINIA COMMUNITY COLLEGE SYSTEM
Spring Quarter 1974

	Percent of Total
Under 16 yrs.	a
17-22 yrs.	36%
23-30 yrs.	34
31-40 yrs.	16
41-50 yrs.	9
51-64 yrs.	4
Over 65 yrs.	a
	(N=42353)

[a]Less than one percent
Source: JLARC Student Survey, September, 1974

Table I-2

RESIDENCE OF STUDENTS IN THE
VIRGINIA COMMUNITY COLLEGE SYSTEM
Spring Quarter 1974

	Percent of Total
Own Home	40%
Rent	31
Live with Parents	29
	(N=42507)

Source: JLARC Student Survey, September, 1974

Table I-3

EMPLOYMENT OF STUDENTS IN THE
VIRGINIA COMMUNITY COLLEGE SYSTEM
Spring Quarter 1974

	Percent of Total
Full Time	54%
Part Time	18
Not Employed	28
	(N=41352)

Source: JLARC Student Survey, September, 1974

Table I-4

OCCUPATIONAL AREAS OF
VIRGINIA COMMUNITY COLLEGE STUDENTS
Spring Quarter 1974

	Percent of Total
Business	39%
Public Service	22
Engineering	15
Student	8
Housewife	7
Health	5
Agriculture & Natural Resources	2
Commercial Arts	1
Other	1
	(N=40473)

Source: JLARC Student Survey, September, 1974

Table I-5

RELATIVE IMPORTANCE OF REASONS FOR ATTENDING A
VIRGINIA COMMUNITY COLLEGE
Spring Quarter 1974

Reason[a]	Percent of Total
Close	81%
Less Expensive	77
Courses There	76
Personal Reasons	19
Other	34
	(N=39864)

[a]Multiple responses possible
Source: JLARC Student Survey, September, 1974

APPENDIX II

Table II-1

FULL TIME FRESHMEN RETURNING AS SOPHOMORES
UNIVERSITY PARALLEL PROGRAMS ONLY
Fall 1972 and Fall 1973

College	Number of Freshmen- Fall 1972	Number of Returning Sophomores- Fall 1973	% Return
Blue Ridge	119	13	11%
Central Virginia	273	15	5
Dabney S. Lancaster	63	25	40
Danville	236	29	12
Eastern Shore	70	28	40
Germanna	108	43	40
J. Sargeant Reynolds	-	-	--
John Tyler	209	36	17
Lord Fairfax	75	35	47
Mountain Empire	94	15	16
New River	153	44	29
Northern Virginia	956	299	31
Patrick Henry	118	56	47
Paul D. Camp	76	23	30
Piedmont Virginia	76	35	46
Rappahannock	62	27	44
Southside Virginia	177	35	20
Southwest Virginia	32	37	116
Thomas Nelson	192	62	32
Tidewater	1117	54	5
Virginia Highlands	168	48	28
Virginia Western	292	99	34
Wytheville	116	13	11
VCCS	4782	1071	22%

Source: Department of Community Colleges, Division of Research & Planning *Student Enrollment Booklets Fall 1972* & *Fall 1973*,(Richmond, Va., years indicated).

Table II-2

FULL TIME FRESHMEN RETURNING AS SOPHOMORES
A.A.S. PROGRAM ONLY
Fall 1972 and Fall 1973

College	Number of Freshmen- Fall 1972	Number of Returning Sophomores- Fall 1973	% Return
Blue Ridge	180	31	17%
Central Virginia	244	9	4
Dabney S. Lancaster	97	69	71
Danville	150	27	18
Eastern Shore	22	8	36
Germanna	81	37	46
J. Sargeant Reynolds	96	11	11
John Tyler	269	86	32
Lord Fairfax	79	35	44
Mountain Empire	138	35	25
New River	207	86	42
Northern Virginia	817	527	64
Patrick Henry	63	31	49
Paul D. Camp	85	27	32
Piedmont Virginia	84	21	25
Rappahannock	53	29	55
Southside Virginia	146	36	25
Southwest Virginia	148	16	11
Thomas Nelson	265	98	37
Tidewater	477	40	8
Virginia Highlands	104	34	33
Virginia Western	460	192	41
Wytheville	196	30	15
VCCS	4461	1515	34 %

Source: Department of Community Colleges, Division of Research & Planning, *Student Enrollment Booklets Fall 1972* & *Fall 1973* (Richmond, Va., years indicated).

Table II-3

CUMULATIVE GRADUATION RATES
ALL STUDENTS[a]
1970-71 Through 1973-74

College	Total Fall Enrollments	Total Awards	%
Blue Ridge	4091	536	13%
Central Virginia	5518	737	13
Dabney S. Lancaster	2220	370	17
Danville	5906	1243	20
Eastern Shore	370	96	26
Germanna	2135	243	11
J. Sargeant Reynolds	412	70	17
John Tyler	6373	714	11
Lord Fairfax	2576	308	12
Mountain Empire	699	101	14
New River	3345	878	26
Northern Virginia	41321	2970	7
Patrick Henry	1260	172	14
Paul D. Camp	1234	187	15
Piedmont Virginia	626	61	10
Rappahannock	1077	132	12
Southside Virginia	2277	310	9
Southwest Virginia	3391	675	20
Thomas Nelson	7874	929	12
Tidewater	9200	1323	14
Virginia Highlands	2279	500	22
Virginia Western	10508	1347	13
Wytheville	3143	749	24
VCCS	117835	14631	12%

[a]Only students who were sophomores in the Fall quarter, 1973 are included in the 1973-74 enrollment.

Source: Department of Community Colleges, Division of Research and Planning, *Student Enrollment Booklets, Fall (1970 through 1973)* and *Awards Conferred (1970-71 through 1973-74)*, (Richmond, Va., years indicated).

Table II-4

CUMULATIVE GRADUATION RATES
STUDENTS ENROLLED IN PROGRAMS
1970-71 Through 1973-74

College	Baccalaureate Transfer	Occ./ Tech.	All Programs
Blue Ridge	14%	25%	22%
Central Virginia	15	26	21
Dabney S. Lancaster	22	37	32
Danville	18	35	29
Eastern Shore	30	52	35
Germanna	12	31	23
J. Sargeant Reynolds	a	23	23
John Tyler	8	23	17
Lord Fairfax	18	22	20
Mountain Empire	17	23	21
New River	24	50	43
Northern Virginia	14	28	21
Patrick Henry	22	27	24
Paul D. Camp	14	23	20
Piedmont Virginia	14	14	14
Rappahannock	20	34	28
Southside Virginia	18	33	27
Southwest Virginia	26	26	26
Thomas Nelson	17	27	23
Tidewater	23	24	24
Virginia Highlands	29	41	32
Virginia Western	23	27	26
Wytheville	34	47	41
VCCS	18	29	24%

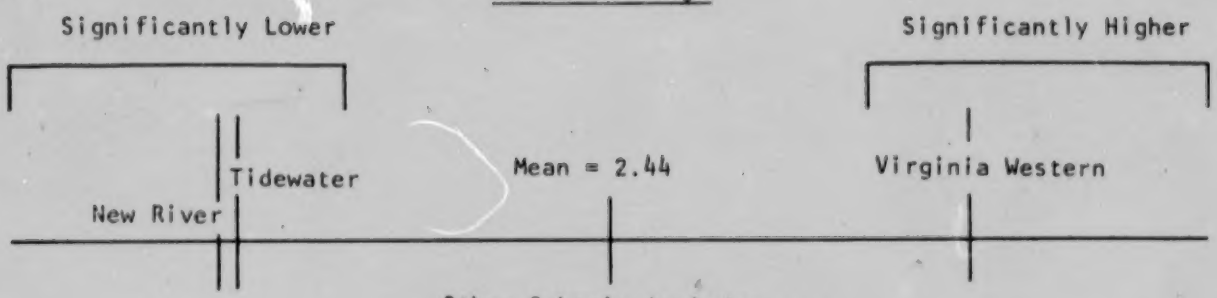
[a]No sophomores enrolled during inclusive period.

Source: Department of Community Colleges, Division of Research & Planning, *Student Enrollment Booklets, Fall 1970, 1971, 1972, 1973* (Richmond, Va., years indicated), and *Awards Conferred 1970-71, 1971-72, 1972-73, 1973-74*, (Richmond, Va., years indicated).

APPENDIX III

Table III-1
G.P.A. PERFORMANCE OF COMMUNITY COLLEGE TRANSFER STUDENTS
AT SIX VIRGINIA FOUR-YEAR COLLEGES AND UNIVERSITIES
1973-74

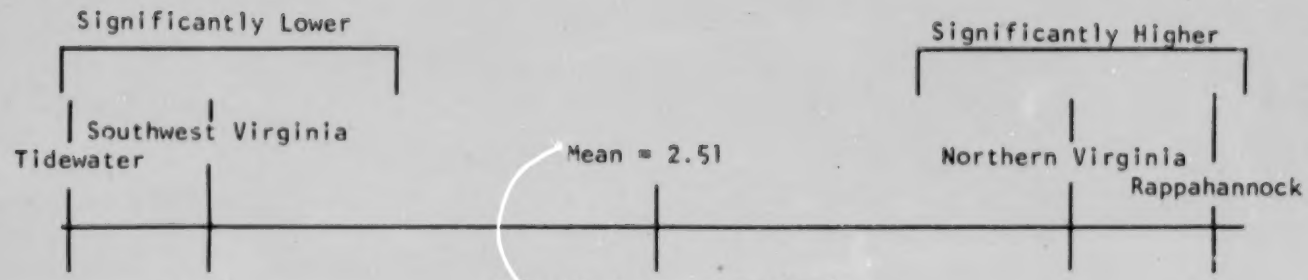
Madison College



Other Schools Include:

Blue Ridge	Patrick Henry
Central Virginia	Paul D. Camp
Dabney S. Lancaster	Piedmont Virginia
Germanna	Rappahannock
J. Sargeant Reynolds	Southside Virginia
John Tyler	Southwest Virginia
Lord Fairfax	Thomas Nelson
Northern Virginia	Virginia Highlands
Wytheville	

Old Dominion University

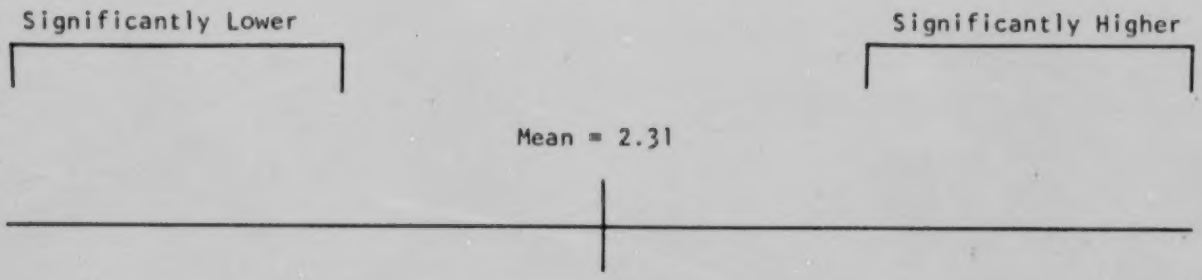


Other Schools Include:

Blue Ridge	Paul D. Camp
Central Virginia	Piedmont Virginia
Danville	Southside Virginia
John Tyler	Thomas Nelson
Patrick Henry	Virginia Western
Wytheville	

Table III-1 cont.

Radford College

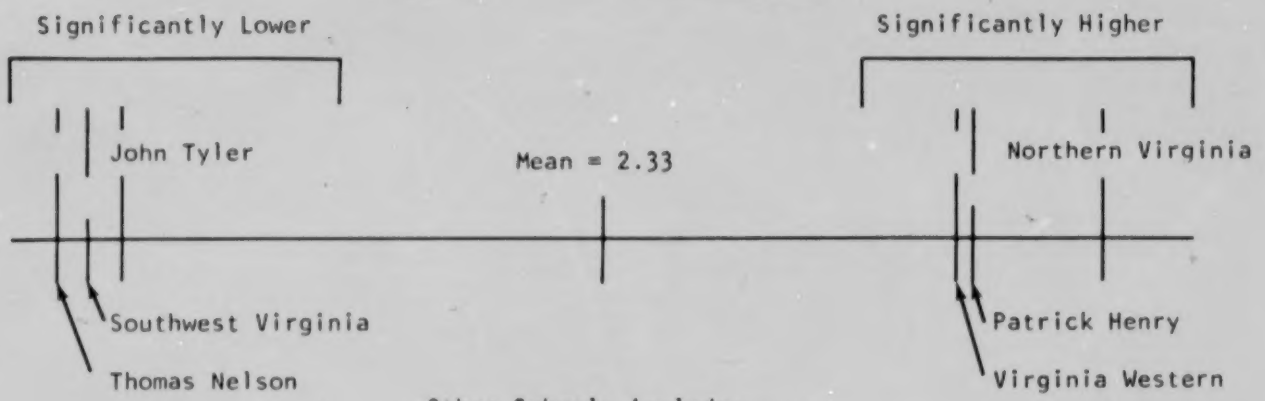


No Significant Deviations

Schools Include:

Blue Ridge	Patrick Henry
Central Virginia	Rappahannock
Dabney S. Lancaster	Southside Virginia
Danville	Southwest Virginia
John Tyler	Thomas Nelson
Lord Fairfax	Virginia Highlands
New River	Virginia Western
Northern Virginia	Wytheville

Virginia Commonwealth University

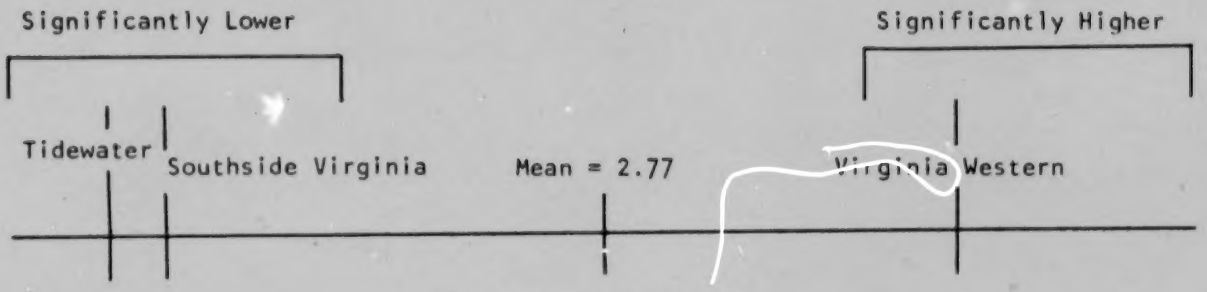


Other Schools Include:

Blue Ridge	Paul D. Camp
Central Virginia	Piedmont Virginia
Dabney S. Lancaster	Rappahannock
Danville	Southside Virginia
Eastern Shore	Southwest Virginia
Germanna	Thomas Nelson
John Tyler	Tidewater
Lord Fairfax	Virginia Highlands
Northern Virginia	Virginia Western
Patrick Henry	Wytheville

Table III-1 cont.

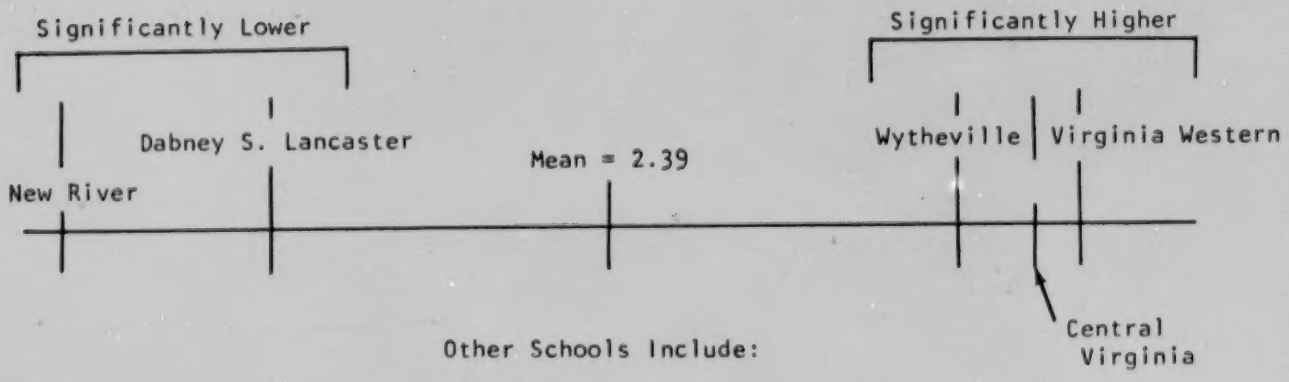
University of Virginia



Other Schools Include:

Blue Ridge	Patrick Henry
Central Virginia	Piedmont Virginia
Dabney S. Lancaster	Southside Virginia
Danville	Southwest Virginia
Eastern Shore	Thomas Nelson
John Tyler	Tidewater
Lord Fairfax	Virginia Highlands
Northern Virginia	Virginia Western
Wytheville	

Virginia Polytechnic Institute and State University



Other Schools Include:

Blue Ridge	Northern Virginia
Danville	Patrick Henry
Eastern Shore	Paul D. Camp
Germanna	Southside Virginia
John Tyler	Southwest Virginia
Lord Fairfax	Thomas Nelson
Mountain Empire	Tidewater
Virginia Highlands	

Table III-2

BUSINESS TECHNOLOGY
(Subject Area Majors For Selected Programs)

College	MANAGEMENT 1972	73	74	SECT. SCI. 1972	73	74	ACCOUNTING 1972	73	74	DATA PROCESS. 1972	73	74
Blue Ridge	67	71	81	36	35	47	34	35	30	1	2	
Central Virginia	101	111	156	84	87	95	28	51	51	60	56	72
Dabney S. Lancaster	49	55	52	20	25	25						
Danville	96	114	102				50	47	45	67	46	46
Eastern Shore	12	14	21	11	11	8						
Germanna	44	55	65	23	33	30	27	28	28			
J. Sargeant Reynolds		54	72		35	86		21	40		35	49
John Tyler	115	143	132	65	55	53	34	47	41	85	63	66
Lord Fairfax	38	33	37	36	40	43	33	26	26	1	3	
Mountain Empire	27	60	68	63	61	43	5					
New River	81	114	140	58	57	48	34	32	47			
Northern Virginia	297	346	386	252	264	264	192	188	267	220	237	265
Patrick Henry	49	82	164	48	46	87		9	27			
Paul D. Camp	55	80	89	53	45	44						
Piedmont Virginia	18	23	49	31	31	37	11	20	22			
Rappahannock	25	35	34	36	60	57						
Southside Virginia	59	63	58	62	72	41						
Southwest Virginia	71	259	215	46	129	60	23	60	35			
Thomas Nelson	126	156	222	107	146	153	57	53	67	71	69	79
Tidewater	132	141	188	105	97	142	70	73	103	79	65	105
Virginia Highlands			29	32	41	66	58	77	60			
Virginia Western	178	202	187	107	124	109	65	77	93	73	75	67
Wytheville	72	67	59	69	53	43			2			

Source: Department of Community Colleges, Division of Research and Planning, *Student Enrollment Booklets, 1972-74*, (Richmond, Va., years indicated).

Table III-3

ENGINEERING AND INDUSTRIAL TECHNOLOGY
(Subject Area Majors For Selected Programs)

College	ELECT/ELECT 1972	73	74	DRAFTING 1972	73	74	AUTOMOTIVE 1972	73	74	MECHANICAL 1972	73	74
Blue Ridge	33	43	54	31	28	21				5	4	4
Central Virginia	6	18	31	36	37	45				30	25	41
Dabney S. Lancaster	12	19	18	19	12	8						
Eastern Shore			20					2	5		*	*
Germanna	16	19	20				13	7	10			
J. Sargeant Reynolds	82	69	56	93	81	66						
John Tyler	44	38	40							20	25	19
Lord Fairfax	13	13	16		*	*						
Mountain Empire	42	43	25	23	32	21				1		
New River	44	68	92	43	5[illegible]	47	3	8	14			
Northern Virginia	79	89	117	6	9	16	33	28	23	18	22	26
Paul D. Camp	36	57	49	2	13	13	36	27	32	4	10	10
Piedmont Virginia	10	14	16	9	11	16		6	10		*	*
Rappahannock	13	11	18	17	18	32	10	17	18			
Southside Virginia	20	19	16	19	19	14	13	20	11			
Southwest Virginia	34	37	38	19	22	11					2	
Thomas Nelson	67	79	63	31	28	32		*	*	58	109	90
Tidewater	41	42	66	86	70	73			4			1
Virginia Highlands	28	49	53	29	32	44						
Virginia Western	92	95	127							49	45	56
Wytheville				20	23	23						

*Approved, not offered

Source: Department of Community Colleges, Division of Research and Planning, *Student Enrollment Booklets, 1972-74*, (Richmond, Va., years indicated).

Table III-4

HEALTH TECHNOLOGY
(Subject Area Majors For Selected Programs)

College	NURSING			MENTAL HLTH.			RADIOLOGY			DENTAL LAB			MED. LAB			MED. RES.			RESP. THER.		
	1972	73	74	1972	73	74	1972	73	74	1972	73	74	1972	73	74	1972	73	74	1972	73	74
Blue Ridge				41	42	45															
Central Virginia							26	29	21				31	34	35	26	25	20			
Dabney S. Lancaster	66	59	54																		
Germanna	54	61	46																		
J. Sargeant Reynolds		86	69					6			26	13		18	26		*	2			
John Tyler	82	74	66																		
Mountain Empire	1																				
Northern Virginia	78	296	301							16	27	24	11	21	22	20	27	19		21	42
Patrick Henry	35	43	43																		
Paul D. Camp		49	22																		
Piedmont Virginia	24	48	56																15	15	24
Rappahannock			31																		
Southwest Virginia	32	49	34			59															
Thomas Nelson	56	68	41																		1
Tidewater	57	50	98																		
Virginia Highlands	17	36	35												1						
Virginia Western	33	59	107	26	46	52	35	50	68												
Wytheville	110	119	123		23	32								*	8						

*Approved, not offered.

Source: Department of Community Colleges, Division of Research and Planning, *Student Enrollment Booklets, 1972-74*, (Richmond, Va., years indicated).

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Table III-5

PUBLIC SERVICE TECHNOLOGY
(Subject Area Majors For Selected Programs)

College	POLICE SCI.			FIRE			COMM/SOC. SERV.			CORR. SCI.			PARK & REC			OCC. SAFETY HEALTH		
	1972	73	74	1972	73	74	1972	73	74	1972	73	74	1972	73	74	1972	73	74
Blue Ridge	59	51	53															
Central Virginia	61	52	69			30		1						3	10			
Dabney S. Lancaster	7	6	20															
Danville	93	96	86															
J. Sargeant Reynolds		21	79		8	73												
John Tyler	53	49	86															
Lord Fairfax	25	22	22															
New River	46	89	105						18									
Northern Virginia	304	301	390	47	43	47					*	6	56	67	77		5	6
Patrick Henry																		
Paul D. Camp			28									17						
Piedmont Virginia	8	18	35				16	25	26									
Rappahannock	1	1	2															
Southwest Virginia	11	58	59															
Thomas Nelson	125	122	148	79	45	40										6	9	14
Tidewater	110	114	148	63	76	107	23	49	98						2			
Virginia Western	61	88	90															
Wytheville	32	33	36															

*Approved, not offered.

Source: Department of Community Colleges, Division of Research and Planning, *Student Enrollment Booklets, 1972-74,* (Richmond, Va., years indicated).

Table III-5a

NUMBER OF CLASSES WITH LESS THAN 10 STUDENTS ENROLLED[a]
BY SCHOOL, FALL 1973

No. Students: / College	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten	Tota
Blue Ridge	2	1	15	6	3	2	7	6	7	11	60
Central Virginia		1			2	6	4	3	9	13	38
Dabney S. Lancaster	7	4	3	9	6	6	2	7	7	6	57
Danville	4	3	3	4	4	1	4	5	4	10	42
Eastern Shore	3	7	6	4	5	2	1	2	1	2	33
Germanna	7	3	10	5	5	14	7	9	7	8	75
John Tyler	4	2	2	5	9	4	10	11	13	10	70
J. Sargeant Reynolds	3	3	4	6	8	12	11	11	15	14	87
Lord Fairfax			2	4	7	5	14	5	8	8	53
Mountain Empire	5	2	5	3	3	3	3	5	5	6	40
New River	12	5	7	4	6	3	10	2	8	13	70
Northern Virginia	8	1	8	9	9	10	9	28	22	34	138
Patrick Henry	2		2	2	1		1	2	2	6	18
Paul D. Camp	2	5	3	8	5	8	4	4	9	10	58
Piedmont Virginia	5		6	7	1	3	6	5	6	7	46
Rappahannock		1	1	4	5	11	15	6	10	13	66
Southside Virginia	3	7	4	9	9	10	10	16	14	15	97
Southwest Virginia	25	13	19	16	19	13	12	9	10	13	149
Thomas Nelson	2			2	1	3	6	4	8	15	41
Tidewater	23	13	4	10	9	9	11	21	20	15	135
Virginia Highlands	11	6	2	6	4	7	14	9	5	10	74
Virginia Western				2	3	3	5	13	7	11	44
Wytheville	2	5	5	4	6	3	4	3	6	9	47
VCCS	130	82	111	129	130	138	170	186	203	259	1538

[a]Does not include labs, seminars, or orientation classes.

Source: State Council of Higher Education For Virginia, Richmond, Virginia,
Form A-1, Resident Classes Taught by Term
Census Date: Oct. 10, 1973
Prepared by the Department of Community Colleges.

Table III-5b

NUMBER OF CLASSES WITH LESS THAN 10 STUDENTS ENROLLED[a]
BY SCHOOL, SPRING 1974

College / No. Students:	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten	Total
Blue Ridge	6	8	6	10	11	10	8	6	8	7	80
Central Virginia	4	2	2	3	11	14	10	11	10	13	80
Dabney S. Lancaster	7	7	3	9	3	12	12	6	8	6	73
Danville		7	3	5	5	8	5	7	8	17	65
Eastern Shore	3	6	6	4	5	2	1	2	1	2	32
Germanna	8	10	11	11	10	6	9	3	5	7	80
John Tyler	6	7	13	8	11	10	7	14	16	9	101
J. Sargeant Reynolds	4	6	7	6	7	6	13	13	20	22	104
Lord Fairfax		2	2	3	7	7	14	10	16	12	73
Mountain Empire	4	6	3	2	8	9	2	3	3	2	42
New River	18	15	10	11	8	9	11	16	7	11	116
Northern Virginia	6	2	6	7	11	13	16	23	35	40	159
Patrick Henry				1	2	1	1	5	10	3	23
Paul D. Camp	6	8	9	10	7	8	3	14	3	10	78
Piedmont Virginia	14	10	21	15	15	20	15	22	9	14	155
Rappahannock	15	8	11	10	11	13	9	10	6	6	99
Southside Virginia	7	4	7	7	13	20	14	11	7	17	107
Southwest Virginia	82	16	15	15	14	14	7	7	15	12	197
Thomas Nelson	2	3	2	2	7	5	3	4	9	10	47
Tidewater	20	9	15	8	8	10	16	22	24	20	152
Virginia Highlands	15	6	5	7	8	11	10	14	9	7	92
Virginia Western			6	7	5	4	20	17	14	16	89
Wytheville	8	1	6	2	4	5	8	6	18	12	70
VCCS	235	143	169	163	191	217	214	246	261	275	2114

[a]Does not include labs, seminars, or orientation classes.

Source: State Council of Higher Education For Virginia, Richmond, Virginia,
Form A-1, Resident Classes Taught by Term
Census Date: April 6, 1974
Prepared by the Department of Community Colleges.

Table III-6

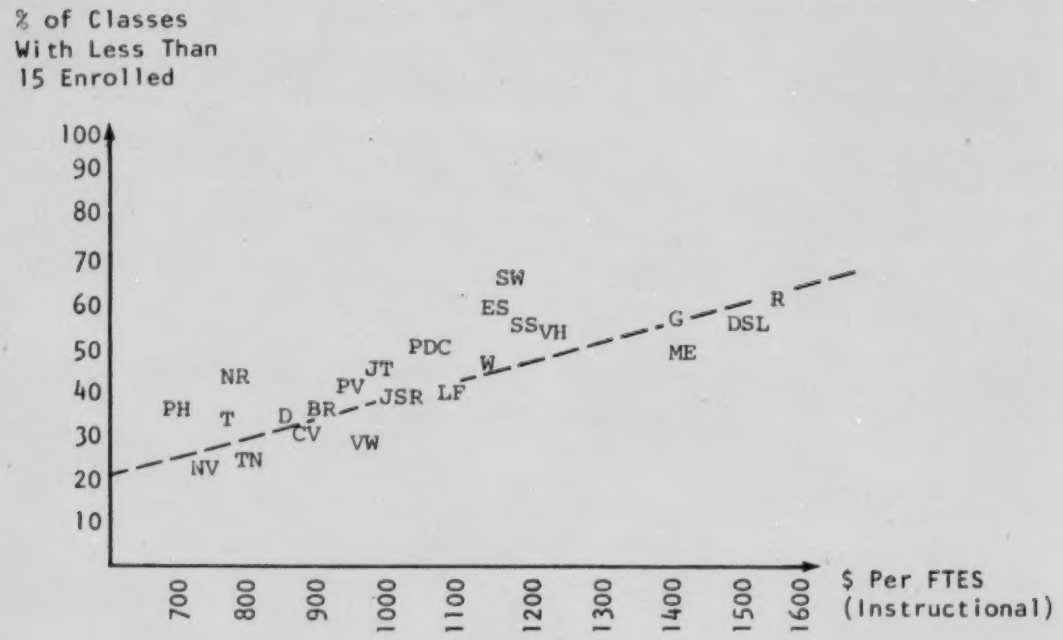
PERCENTAGE OF GRADUATES TO SOPHOMORE ENROLLEES BY PROGRAM AND TOTAL 1973-74

College	College-Transfer	Occupational-Technical	Total
Blue Ridge	63%	104%	93%
Central Virginia	95	217	151
Dabney S. Lancaster	44	79	69
Danville	123	136	133
Eastern Shore	117	250	146
Germanna	33	107	71
J. Sargeant Reynolds	---	150	152
John Tyler	38	78	66
Lord Fairfax	86	107	98
Mountain Empire	133	203	180
New River	118	212	186
Northern Virginia	66	80	75
Patrick Henry	60	79	68
Paul D. Camp	49	128	92
Piedmont Virginia	58	103	77
Rappahannock	58	146	106
Southside Virginia	93	200	155
Southwest Virginia	146	384	228
Thomas Nelson	90	81	83
Tidewater	359	189	273
Virginia Highlands	90	260	157
Virginia Western	81	83	83
Wytheville	257	304	288

Source: Department of Community Colleges, Division of Research and Planning. *Student Enrollment Booklet, 1973,* and *Awards Conferred, 1973-74,* (Richmond, Va., years indicated).

Figure III-7

Correlation: Low Enrollment in Classes with Cost Per FTES

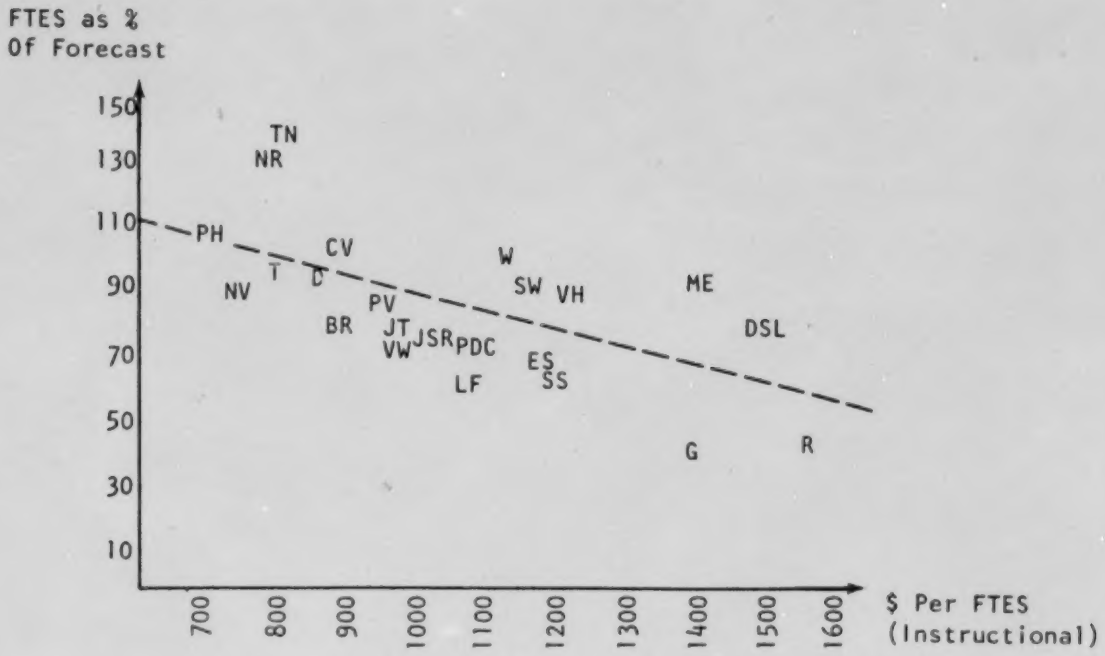


Note: A strong correlation (r =.79) is shown in Figure III-7. As the percent of classes with low enrollment increases, the average instruction costs per FTE student also increase.

Source: State Council on Higher Education, Reports A-1 and E-1, (Richmond, Va., 1973-74).

Figure III-8

Correlation: Accuracy in Forecasting
Student Enrollment with Cost Per FTES



Note: The negative correlation (r = -.64) indicates that as forecasts of FTE students approach or surpass the actual enrollment, costs per FTE student decrease.

Source: State Council on Higher Education, Reports A-1 and E-1, (Richmond, Va., 1973-74), and Virginia *Budget* 1972-1974 and 1974 and 1976 (Richmond, Va., years indicated), and Department of Community Colleges, Division of Research and Planning, *Student Enrollment Booklet 1972, 1973, 1974,* (Richmond, Va., years indicated).

APPENDIX IV

Exhibit IV-1

STATE BOARD OF TECHNICAL EDUCATION
GUIDELINES FOR SPECIAL TRAINING DIVISION

OBJECTIVE

1. To provide Virginia's citizens with the opportunity to qualify for available jobs by teaching salable skills.

GENERAL PRINCIPLE

1. In negotiating a program with any industry, we must maintain a certain degree of flexibility. Strict adherence to rigid rules might often deprive our state and citizens of a greater good. Conversely, we cannot allow expediency to influence us to compromise our basic policies and standards completely. We have learned that almost without exception we can negotiate within this framework a training program that will benefit the State of Virginia, the people of Virginia, and the industry of Virginia.

TYPE OF TRAINING PROVIDED

1. Training in "basic skills and knowledge" required for specific job openings. (See appendix)

TYPE OF TRAINING NOT PROVIDED

1. Training that advances the trainee to "production efficiency."

NUMBER OF TRAINEES REQUIRED

1. Minimum of 20 in a particular skill area (assembly, impact, turning, etc.).

OPENINGS FOR WHICH TRAINING WILL BE PROVIDED

1. Newly created openings -- not normal turnover openings.

2. Not for upgrading present employees.

TYPES OF INDIVIDUALS TO BE TRAINED

1. Pre-employment trainees -- not employed by the firm involved.

2. Employees of the firm involved, where the training period is of long duration.

SELECTION OF PRE-EMPLOYMENT TRAINEES

1. Unemployed should have priority.

2. Employer may select the trainees, or request the State Employment Service to do so.

STATUS OF PRE-EMPLOYMENT TRAINEES

1. Both employer and pre-employment trainees are free agents during the training period with no obligation to each other at completion of training period.

LOCATION OF TRAINING SITES

1. The employer's plant is the preferred location.

2. State funds will not be used for leasing facilities.

3. State-owned space can be used.

INSTRUCTORS

1. Employer should provide them.

2. If employer cannot provide them, the state will do so.

3. The employer will be reimbursed by the state for the instructor's salary.

4. Instructors provided by the state will be paid by the state, at a salary that will obtain the proper level of instruction.

EQUIPMENT

1. Training undertaken at the firm's location will be conducted using that firm's equipment.

2. Training held at a state institution can use the state's equipment.

3. When special equipment is not available, the employer will be expected to provide it. If the equipment is general purpose, the state may provide it.

PRODUCTION MATERIALS

1. Materials to be worked on by trainees will be provided by the employer wherever possible.

INSTRUCTIONAL MATERIALS

1. Instructional materials of a special nature for a particular firm will be provided by the firm.

2. Instructional materials of a general nature (such as blueprint reading) may be provided by the state.

CLASS ROOM SIZE

1. There shall be a minimum of 10 persons per instructor, but maximum should not exceed 20.

TRAINING DURATION

1. Training shall be at least four hours per day.

2. Trainings for a special individual shall not exceed eight weeks without specific approval of the Special Training Committee of the State Board of Technical Education.

LOCAL POLITICAL SUB-DIVISION PARTICIPATION

1. The Special Training Division will inform the local political sub-division in the area involved of the arrangements being made with the particular firm.

H. W. Tulloch
11-17-65

TRAINING IN "BASIC SKILLS AND KNOWLEDGE"

In arriving at the specific type and length of training for a particular firm, the following approach is suggested:

1. The firm will be asked to furnish their job descriptions for the involved occupations.

2. The firm will also be asked what length of time is required for an average individual to become 100% efficient on each particular occupation involved.

3. From this information, the Special Training Division and the employer can reach agreement on the type and length of training that will be furnished by the state.

   In this connection, a rule of thumb for the state could be to train individuals up to, say, 50% efficiency. General background (classroom) subjects would be necessary in some cases, as well as on-the-job skill training, in order to reach the efficiency goal.

4. Classroom subjects should include brief reviews of the responsibilities of employers and the responsibilities of employees in a free enterprise economy, as well as where jobs come from and the need to make a profit.

H. W. Tulloch
11-17-65

Table IV-2

COMPARISON OF DATA PROVIDED BY SPECIAL TRAINING DIVISION WITH DATA FROM INDUSTRY SURVEY

Company	Type of Training	SPECIAL TRAINING: Total Cost of Training	SPECIAL TRAINING: Number of Persons Trained	SPECIAL TRAINING: Number of Persons Hired	SPECIAL TRAINING: Cost of Training per Person Hired	INDUSTRY SURVEY: Number of Persons Trained	INDUSTRY SURVEY: Number of Persons Hired	INDUSTRY SURVEY: Cost of Training per Person Hired	DIFFERENCE: Number Hired	DIFFERENCE: Cost per Person Hired
Pannil Knitting[1]	Sewing Operators	$ 5,509.53	225	225	$ 24.49	189	189	$ 29.15	36	$ 4.66
Martin Processing[2]	Textile Operators	$ 80,761.00	1,014	1,014	$ 79.65	N.A.				
Child Care of Virginia	Nursery Attendants	$ 33,162.00	62	62	$534.87	55	55	$ 602.95	7	$ 68.08
Jonbil[3]	Sewing Operators	$ 17,174.42	490	490	$ 35.05	490	490	$ 35.05	0	$ 0
Kennametal Passage Marine[4]	Program just started, no information available Boat Assemblers	$ 5,084.30	30	24	$211.85	15	15	$ 338.95	9	$ 127.10
Brown Boveri[5]	Mechanic Instructors	$ 12,018.35	18	18	$667.69	8	8	$1,502.29	10	$ 834.60
White Motor Company	Supervisory Trainees	$ 3,070.04	18	12	$255.84	18	12	$ 255.84	0	$ 0
Western Electric	Electronic Assemblers	$ 471.95	129	129	$ 3.66	129	125	$ 3.78	4	$ .12
Nabisco	Mechanics-Operators	$ 6,723.78	371	358	$ 18.78	359	343	$ 19.60	15	$ .82
Ingersoll Rand[6]	Machinists	$673,075.60	781	781	$861.81	781	781	$ 861.81	0	$ 0
General Electric[7]	Electronic Assemblers	$172,185.68	11,828	10,611	$ 16.23	11,828	10,611	$ 16.23	0	0
Imperial Reading[8]	Sewing Operators	$ 16,648.14	348	348	$ 47.84	239	239	$ 69.66	109	$ 21.82
R. J. Carroll	Pressmen	$ 10,346.63	32	32	$323.33	27	27	$ 383.21	5	$ 59.88

Contd.

Table IV-2

Company	Type of Training	Total Cost of Training	Number of Persons Trained	Number of Persons Hired	Cost of Training per Person Hired	Number of Persons Trained	Number of Persons Hired	Cost of Training per Person Hired	Number Hired	Cost per Person Hired
Wheelabrator Frye	Metal Finishers	$ 172.52	20	20	$ 8.63	20	20	$ 8.63	0	$ 0
Virginia Metal Products[9]	Metal Fabrication	$ 12,569.68	86	35	$359.13	65	6	$2,094.95	29	$1,735.82
Poclain[10]	Hydraulic Assemblers	$ 9,717.95	10	-	-	10	-	-	-	-
J. T. Baker[11]	Diagnostic Technicians	$ 1,215.51	20	20	$ 60.78	9	9	$ 135.06	11	$ 74.28
Sunstrand[12]	Metal Fabricators	$ 554.40	25	25	$ 22.18	-	13	$ 42.65	12	$ 20.47
Atlas Machine & Iron Works	Steel Fabricators	$ 494.34	30	30	$ 16.48	30	30	$ 16.48	0	0
Gindy Manufacturing[13]	Metal Assemblers	$ 3,811.91	48	48	$ 79.41	37	37	$ 103.02	11	$ 23.61
Cableform[14]	Electronic Controls	$ 2,207.10	4	4	$551.78	4	4	$ 551.78	0	0
Gambro[15]	Assemblers & Injection Moulding Operators	$ 38,331.58	79	79	$485.21	106	106	$ 361.62	-27	$ -123.59
Howmet[16]	Mold Fabricators	$ 10,590.63	38	38	$278.70	N.A.				
Stihl, Inc.	Mechanical Assemblers	$ 383.04	10	10	$ 38.30	10	10	$ 38.30	0	$ 0
Camelot Hall Nuring Home[17]	Nursing Assistants	$ 2,168.28	25	25	$ 86.73	N.A.				
Meredith/Burda[18]	Pressmen	$ 36,561.90	420	420	$ 87.05	N.A.				
Ross Laboratories[19]	Operator & Supervisors	$ 9,720.40	80	80	$121.51	55	55	$ 176.73	25	$ 55.22
Bookcrafters, Inc.	Book Binders	$ 27,642.50	72	72	$383.92	72	72	$ 383.92	0	$ 0
Emerson Electric	Machine Operators	$ 8,569.55	115	115	$ 74.52	115	115	$ 74.52	0	$ 0

Contd.

Table IV-7

Company	Type of Training	Total Cost of Training	Number of Persons Trained	Number of Persons Hired	Cost of Training per Person Hired	Number of Persons Trained	Number of Persons Hired	Cost of Training per Person Hired	Number Hired	Cost per Person Hired
Jarrett Sportswear[20]	Sewing Operators	$ 2,250.00	29	29	$ 77.59	40	40	$ 56.25	-11	$ -21.34
Commodore Business Machines[21]	Electronic Assemblers	$ 9,447.99	430	430	$ 21.97	332	332	$ 28.46	98	$ 6.49
Aeroguip[22]	Assemblers	$ 19,720.00	81	81	$243.46	90	90	$ 219.11	-9	$ -24.35
Dixon Dress Company	Sewing Operators	$ 1,495.00	58	58	$ 25.78	58	58	$ 25.78	0	$ 0
Foster Grant	Machine Operators	$ 1,225.26	150	150	$ 8.16	150	120	$ 10.21	30	$ 2.05
Fiberglass Systems	Assemblers	$ 39,564.77	75	75	$527.53	75	65	$ 608.69	10	$ 81.16
Gravely Furniture	Furniture Operators	$ 1,621.07	165	165	$ 9.82	28	28	$ 57.89	137	$ 48.07
D & P Embroidery	Sewing Operators	$ 52,782.16	55	55	$959.68	26	26	$2,030.08	29	$1,070.40
Schwarzenbach-Huber	Textile Operators	$ 65,937.44	653	653	$100.98	622	622	$ 106.01	31	$ 5.03
Athena Industries[23]	Sewing Operators	$ 4,943.20	220	220	$ 22.47	150	150	$ 32.95	70	$ 10.48
	TOTAL	$1,260,129.84	16,837	15,544	$ 81.07 avg.	16,232	14,903	$ 84.56	641	$ 3.49
	TOTAL without GE	$1,087,944.16	5,009	4,933	$220.54 avg.	4,404	4,292	$ 253.48	641	$ 32.94

Sources: "Status Report, Special Training Programs, Virginia Community College System, January 1, 1966 through October 31, 1974", and subsequent material furnished by the Division March 13-14, 1975.
JLARC Industry Telephone Survey, October - December, 1974 and January, 1975. Validations - March, 1975.

[1]An outstanding invoice of $782.14 as of the cutoff date of this survey raises the cost of this training program to $6291.67.

[2]In the initial JLARC industry survey, Martin Processing indicated that only 950 persons actually completed the training. We were unable to obtain verification from Martin of this figure, thus it has not been included in the analysis.

[3]Jonbil indicated that another program had been conducted at their Chase City plant several years ago but that now they do their own training. Although the plant manager did not know how many had been trained in the program, they only employ 190 operators--Special Training indicates that 300 persons were trained. While Jonbil - Danville indicated that 507 persons were trained and hired March, 1973 - August, 1974, reimbursements had only been made for 490 persons as of the cutoff date for this report.

[4]During agency validation, the Special Training Division changed the number trained and hired to 20.

[5]While Brown Boveri indicates that a total of 18 persons have been trained, billing has not been set up for 10 of these trainees. During an October, 1974 meeting, one of the Special Training coordinators was informed that an additional ten persons had been hired and trained. Since the $12,018.35 cost refers to the 8 employees sent to Switzerland, only 8 persons are considered trained and hired.

[6]Ingersoll Rand employs a total of 623 persons of whom 371 are machinists as of 1-31-75.

[7]Indications are that the large numbers of persons trained have resulted from training for attrition or replacement. G.E. only employs 3,000 electronic assemblers at the plant. During agency verification, Special Training indicated that the cost of the operator training was only $24,873.70. This figure does not include payroll for seven instructors over a period of eight years who taught a variety of programs other than the G.E. operator program. It does include the total cost for the facility which is shared with a second client.

[8]During agency verification, the number of persons trained and hired was corrected to 344.

[9]Virginia Metal Products had only hired 6 of the 65 persons trained as of 10-31-74 because of delays in occupying their facility. An additional 20 persons were hired in January, 1975. During agency verification, the Division of Special Training corrected the number hired to 6.

[10]Poclain is an on-going program. The 10 persons in training as of 10-31-74 had not completed the program, thus Poclain is not included in the analysis.

[11]The cost of the training, $1215.51, only covers reimbursement for 10 trainees, of which only 9 completed the training.

[12]The cost of this training program is only for recruitment. A newspaper advertisement recruited employees for this plant. Sunstrand indicated that they had selected 13 persons from approximately 28 who responded to the advertisement run by the Special Training Division for their initial work group. Subsequently they have increased that group's size to 35 but they were not sure whether or not any of the additional persons hired came from the Division's recruitment efforts.

[13]Training in this program was for welding. 24 trainees were certified as welders, 13 became proficient enough to work as welders on certain tasks, and the remaining 13 remained employed at the plant but not as welders.

[14]Cableform has put a hold on their expansion plans because of present economic conditions. Their initial forecast was to hire 30 people

the 1st year and an additional 100 the second.

[15]As of 10-31-74, 112 persons had completed 120 hours of training, but the invoices only covered 106 persons. Special Training revised their figure from 79 to 106 during agency verification.

[16]During the initial JLARC industry survey , Howmet was unwilling to respond to survey questions. During agency verification, Special Training indicated that although 38 persons had completed training prior to our cutoff date of 10-31-74, they were not hired until a later date; thus they changed the number hired to 0. Howmet is not included in the analysis.

[17]Verification of JLARC Industry Survey Data was unobtainable. We were only able to talk with an instructor who had instructed one of the two classes. She indicated that she had trained 17 persons of which 15 completed the training and were hired. Camelot Hall Nursing Home is not included in the analysis.

[18]Verification of numbers provided in the JLARC Industry Survey (401 trained, 388 hired) were unobtainable. Thus Meredith/Burda is not included in the analysis.

[19]During agency verification, Special Training corrected the number trained and hired to 55.

[20]Jarrett Sportswear indicated that they had been reimbursed for 40 trainees, however, the Division of Special Training stated that they had only reimbursed Jarrett for 29 trainees.

[21]During agency validation, Special Training corrected the number hired and trained to 348.

[22]Agency validation by the Special Training Division raised the number trained and hired to 90.

[23]The Division of Special Training reduced the number trained and hired during agency validation to 150. The company has experienced recent turnover in management personnel and was unable to provide JLARC with complete documentation of the number of persons trained but did establish that the maximum employment level was about 150.

Exhibit IV-3

Industry Telephone Survey Contacts

Industry	Date Contacted	Person Contacted	Title
Pannil Knitting	10/29/74 03/13/75	Mr. Dwight Pemberton	Dir. of Industrial Relations
Martin Processing	10/29/74 03/12/75	Mr. Robert Newman Mr. Darrell Smith	Plant Manager Personnel Manager
Child Care of Va.	01/09/75 03/14/75	Ms. Ann Howard Mr. Charles Howard	Director-Owner Director-Owner
Jonbil	10/30/74 03/14/75	Mr. Fred Moore Mr. Bernard Hardy	Plant Manager Plant Manager
Kennametal	10/31/74 03/12/75	Mr. William Clark	Plant Manager
Passage Marine	10/29/74	Mr. Scott Bergman	President
Brown Boveri	10/30/74 03/12/75	Mr. Dan Smith	General Manager
White Motor Co.	10/30/74 03/12/75	Mr. Allen Kinzer	Mgr. of Employee Relations
Western Electric	10/29/74 03/13/75	Mr. Bill Johnson	Dept. Chief of Personnel
Nabisco	10/29/74 03/12/75	Mr. Milt Mentor	Personnel Manager
Ingersoll Rand	10/31/74 03/13/75	Mr. Jim Stump Mr. Michael Goode	Employment Administrator Personnel Manager
General Electric	10/30/74	Mr. Larry Howes	Mgr. of Employee and Community Relations
Imperial Reading	12/03/74	Mr. Dan Rogers	Plant Engineer
R. J. Carroll	12/26/74	Mr. Bob Alshuler	General Manager
Wheelabrator Frye	12/26/74 03/13/75	Mr. Kenyon Cory	Plant Manager
Va. Metal Products	12/26/74	Mr. Bob Gross	Personnel Manager
Poclain	12/26/74	Mr. Don Shenick	Plant Manager
J. T. Baker	12/26/74 03/12/75	Ms. Nancy Hinsel	Personnel Administrator
Sunstrand	12/26/74 03/12/75	Mr. John Sheer Mr. Frank Tippner	Personnel Manager Director of Personnel
Atlas Machine & Iron Works	12/27/74	Ms. Thelma Elder	Office Manager

Exhibit IV-3

Industry	Date Contacted	Person Contacted	Title
Gindy Manufacturing	12/27/74 03/12/75	Mr. Russ Huggett	Personnel Manager
Cableform	12/27/75	Mr. Graham Thexton	Executive Vice President
Gambro	01/09/75 03/13/75	Mr. Larry Boyles Mr. Darryl W. Rhodes	Personnel Manager Personnel Manager
Howmet	12/27/74	Ms. Susan Farrell	Secretary
Stihl, Inc.	12/27/74 03/13/75	Mr. Clayton Mckee	Manager of Finance
Camelot Hall Nursing Home	12/27/74 03/13/75	Ms. Betty Turner	In-Service Trainer
Meredith/Burda	12/30/74	Mr. James Fulton	Mgr. of Employee Relations
Ross Laboratories	12/30/74 03/13/75	Mr. Bill Stark Mr. Irving Mitchell	Plant Manager Plant Controller
Bookcrafters, Inc.	12/30/74 03/12/75	Mr. Greg Hanna	Plant Manager
Emerson Electric	12/30/74 03/13/75	Mr. R.C. King	Plant Manager
Jarrett	12/30/74 03/12/75	Ms. Wanda Weeks	Instructor
Commodore Business Machines	12/31/74 03/12/75	Ms. Nancy Smith	Personnel Manager
Aeroquip	12/31/74	Mr. F.S. Wittenauer	Plant Manager
Dixon Dress Co.	01/03/75 03/12/75	Mrs. Elizabeth Ingram	Office Manager
Foster Grant	01/03/75 03/12/75	Mr. J.B. Jones	Personnel Manager
Fiberglass Systems	01/08/75	Mr. Bill Culpepper	President
Gravely Furniture	01/16/75 03/13/75	Mr. Doug Thurman Mr. Mike Galiger	Training Director Vice President
D & P Embroidery	01/16/75 03/13/75	Mr. Bill Bounds	Plant Manager
Schwarzenbach Huber	01/16/75 03/13/75	Mr. Joe Russo Mr. Bill Shelton	Personnel Manager Plant Controller
Athena Industries	01/16/75	Mr. Bill Conner	Acting President

APPENDIX V

Exhibit V-1

Virginia Community College System

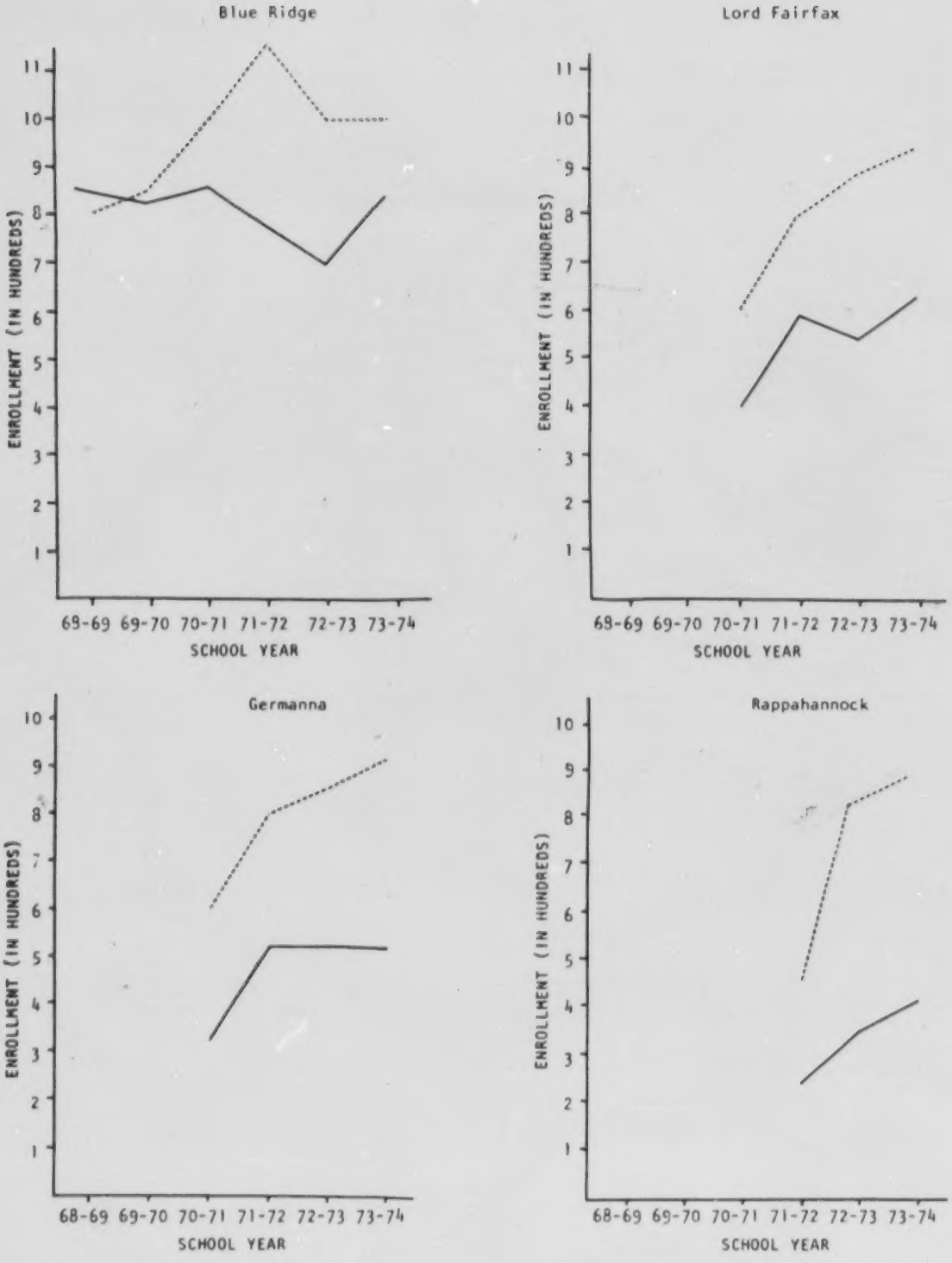
GROUPS INVOLVED IN THE ESTABLISHMENT OF PROGRAMS AND COURSES

Key: R = Required
X = Recommended

	Courses	Certificate Programs	Diploma Programs	Associate Degree Programs
Local Level				
Faculty Committees Review and recommendation by	R	R	R	R
College Administration Approval by	R	R	R	R
Local Citizens' Curriculum Advisory Committees Review and recommendation by For occupational-technical programs		R	R	R
Local Community College Board Approval by		R	R	R
State Level				
State Department of Community Colleges Approval by	R	R	R	R
State Citizens' Curriculum Advisory Committees Review and recommendation by For occupational-technical programs With Statewide implications		R	R	R
State Committees of Faculty and/or Community College Administrators Review and recommendation by For programs with Statewide implications	X	X	X	X
Curriculum and Program Committee, SBCC Approval by		R	R	R
State Board for Community Colleges Approval by		R	R	R
State Council of Higher Education Approval by				R

Exhibit V-2

COMPARISON OF ACTUAL WITH PROJECTED
FULL-TIME EQUIVALENT (FTE) STUDENTS
BY ACADEMIC YEAR



Source: Commonwealth of Virginia, *Budget, 1968-70, 1970-72, 1972-74,* and *1974-76,* (Richmond, Va. years indicated).

Exhibit V-3

Virginia Community College System
NORMAL MINIMUM CRITERIA FOR EACH FACULTY RANK[1]

	Faculty in Developmental Studies, Humanities, Social Sciences, Natural Sciences & Math		Faculty in Specialized Professional or Technical Associate in Applied Science Degree Fields		Faculty in Non Associate Degree Occupational Fields	
	Initial Appointment	Promotions	Initial Appointment	Promotions	Initial Appointment	Promotions
Column 1	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
ASSISTANT INSTRUCTOR	(Appointment on a temporary or emergency basis for a period of one year for persons who meet most of the minimum requirements for the instructor rank and who show evidence of being able to complete such requirements within one year. A one-year renewal only of assistant instructor appointment may be considered upon request of the college administrator for a person who is actively pursuing completion of the necessary requirements.)					
INSTRUCTOR						
Job Performance	Good recommendations		Good recommendations		Good recommendations	
College Training	Masters (18 grad. sem. hrs. in teaching field)		Bachelors (Major in teaching field)		Assoc. or equiv. preferred but not required	
Experience						
Related Occup. Exp.	0		2 yrs		10 yrs. *	
Total Teaching Exp.	0		0		0	
Exp. in Va. CC System	0		0		0	
Professional Activities	Nominal		Nominal		Nominal	
Community Activities	Nominal		Nominal		Nominal	
ASSISTANT PROFESSOR						
Job Performance	Good recommendations	Good	Good recommendations	Good	Good recommendations	Good
College Training	Specialist or equiv. †(36 grad. sem. hrs. in teaching field)	Masters + 15 grad. sem. hrs. (27 grad. sem. hrs. in teaching field)	Masters (18 grad. sem. hrs. in teaching field)	Bachelors +15 grad. sem. hrs. (Major in teaching field)	Assoc. or equiv. (Major in teaching field)	Assoc. or equiv. preferred but 1 year required
Experience:						
Related Occup. Exp.	0	0	2 yrs.	2 yrs.	8 yrs. *	10 yrs.*
Total Teaching Exp.	2 yrs.	5 yrs.	2 yrs.	5 yrs.	2 yrs.	5 yrs.
Exp. in Va. CC System	0	3 yrs.	0	3 yrs.	0	3 yrs.
Professional Activities	Average	Average	Average	Average	Average	Average
Community Activities	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal
ASSOCIATE PROFESSOR						
Job Performance	Very good recommendations	Very good	Very good recommendations	Very good	Very good recommendations	Very good
College Training	Doctorate (54 grad. sem. hrs. in teaching field)	Specialist or equiv. †+15 grad. sem. hrs. (45 grad. sem. hrs. in teaching field)	Specialist or equiv. †(36 grad. sem. hrs. in teaching field)	Masters + 15 grad. sem. hrs. (18 grad. sem. hrs. in teaching field)	Bachelors (Major in related teaching field)	Assoc. or equiv. (Major in teaching field)
Experience:						
Related Occup. Exp.	0	0	2 yrs.	2 yrs.	6 yrs. *	8 yrs. *
Total Teaching Exp.	6 yrs.	7 yrs.	6 yrs.	7 yrs.	6 yrs.	7 yrs.
Exp. in Va. CC System	0	4 yrs.	0	4 yrs.	0	4 yrs.
Professional Activities	Average	Average	Average	Average	Average	Average
Community Activities	Average	Average	Average	Average	Average	Average
PROFESSOR						
Job Performance		Exellent		Excellent		Excellent
College Training		Doctorate (54 grad. sem. hrs. in teaching field)		Specialist or equiv. †+15 grad. sem. hrs. (45 grad. sem. hrs. in teaching)		Masters (Major in related teaching field)
Experience:						
Related Occup. Exp.		0		2 yrs.		6 yrs. *
Total Teaching Exp.		10 yrs.		10 yrs.		10 yrs.
Exp. in Va. CC System		5 yrs.		5 yrs.		5 yrs.
Professional Activities		Extensive		Extensive		Extensive
Community Activities		Average		Average		Average

[1] Fulfillment of normal minimum criteria does not guarantee original placement in, or promotion to, a given faculty rank.

* Each year of additional study in college or a special school may be substituted for two years of occupational experience up to a total of four years of occupational experience.

† Specialist degree or equivalent (minimum of 24 semester hours beyond the master's degree in a planned program).

Revision Approved by State Board for Community Colleges
July 19, 1972

APPENDIX VI

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APPENDIX VII

AGENCY RESPONSES

Department of Community Colleges

JLARC additional comments

Council of Higher Education

Division of the Budget

VIRGINIA COMMUNITY COLLEGE SYSTEM
REVIEW OF THE
JOINT LEGISLATIVE AUDIT AND REVIEW COMMISSION
STAFF REPORT

April 16, 1975

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SUMMARY OF COMMENTS:
VIRGINIA COMMUNITY COLLEGE SYSTEM REVIEW
OF THE JOINT LEGISLATIVE AUDIT AND REVIEW COMMISSION STAFF REPORT

The State Board, the Department, and the colleges in the system recognize the value of evaluation by outsiders. This has been a continuing practice in higher education and is welcomed.

This new dimension of evaluation represented by the Joint Legislative Audit and Review Commission can also be helpful, not only to this system, but to other institutions and state agencies.

The staff of the Joint Legislative Audit and Review Commission (JLARC) has undertaken a review of the Virginia Community College System as its first project and has been actively engaged in this activity for over nine (9) months. While the JLARC staff held four meetings for a cursory revision of the status of the project and did invite correction of factual data, the time frame at the end of this project was unfortunately compressed. We are aware that the study had to be completed and we appreciate the time constraints placed on the JLARC staff.

There are uses of data, conclusions drawn from the data, techniques of analysis, and even the data itself which must be examined carefully and thoughtfully.

The time constraints dictate that we address the major issues and continue our review of the report over the coming year, taking action where and when appropriate. This we shall do.

1. Legislative Intent

ITEM: The philosophy of the VCCS as set forth by the policies of the State Board and Implemented by the staff of the system is in accord with Legislative intent and the directions provided by the Bird Commission.

The Virginia Community College System is and has been in accord with the Bird Commission and Legislative intent.

The involvement of many individuals, still in the system, with the Bird/Slaughter Commission and in the legislative process creating this community college system assures an unusual awareness of not only the process but the intent.

A careful review of the Commission's studies, and an analysis of the system as it now exists, clearly affirms the fact that the system is being developed as intended by the Commission and the Legislature.

The system is composed of twenty-three (23) institutions--each different--designed to meet local needs within the framework of a state-wide system policy.

The need to regularly monitor individual colleges for performance and effectiveness is recognized.

While we sense that the JLARC staff has not understood the community

college philosophy and purpose, many of their suggestions and ideas have merit and not only deserve consideration but will receive it.

2. Admissions - Counseling

ITEM: Virginia's community colleges are following admission and counseling policies in accordance with the philosophy of the comprehensive community college.

The system takes exception to the recommendation that regular testing be established for program admissions. We maintain this was not the intent of the Bird Commission, the Legislature, or the State Board.

We find no evidence to support the JLARC staff contention that testing will reduce attrition and increase the number of students returning as sophomores.

After careful review, state-wide testing was discontinued, and SCAT test scores were collected as a common indicator of basic academic ability for Virginia Community College entering students.

Helping students identify education and career goals was stated by counselors as their role when surveyed by the JLARC staff. We concur with this definition of the role. To suggest the counselors serve as admissions officers is contrary to community college and professional counseling philosophy.

Decisions about admissions are normally made by an admissions officer, an admissions committee, or a member of the instruction division administration.

We do agree that more intensive studies are needed on why students drop out and why students stay. Such a study will be undertaken.

3. Biennium Funding

ITEM: All funds appropriated to the Virginia Community College System for the operation of its colleges including the 1970-72 and 1972-74 biennia were used to meet essential operating expenses and were expended in accordance with appropriate Executive and Legislative authority or were returned to the General Fund.

The use of those funds is set forth herein:

Budget support - various colleges*	$1,679,263
Absorbed cost of Regrade - unbudgeted raises to classified employees appropriated by General Assembly and authorized by the Governor	$1,166,000
MIS Development (Department Administration)	$ 610,045
Computer purchase for Northern Virginia Community College resulting in annual rental savings of $144,000	$ 546,000

Library Books - Purchases will partially offset a book deficit for the system of approximately $2,000,000	$ 575,000
Capital - Matching Federal Funds (for purchases of essential equipment)	$ 287,702
Repayment of Loans:**	
Patrick Henry Community College	$ 203,000
Eastern Shore Community College	$ 75,000

* Funds were necessary to cover essential operating expenses including the absorption of inflational cost increases of our colleges.

** Additional cost resulting from the transfer of two colleges to the Virginia Community College System during the 1970-72 biennium without additional appropriation.

4. Enrollment Projections

ITEM: VCCS enrollment projections have not been as accurate as we want them to be; however, working with the State Council of Higher Education, we are making every effort to improve them. As we improve our projection techniques, we will continue to make interim projections to keep the system, the colleges, and other appropriate state agencies continuously aware of the status of our enrollment.

The Virginia Community College System has never intentionally inflated its enrollment projections. In fact, several interim projections prior to and early in 1972-74 biennium made it evident that the system was not going to reach its earlier 1972-74 enrollment estimates. A reduction in funding occurred as a result of those interim estimates. The end of the military draft and the postponement of the opening of a number of our institutions, among other factors, had a significant impact on our failure to meet our original projections.

Enrollment projection techniques rely heavily on historical data. For a very young system, such as ours, historical data is not yet available.

It appears that there will be some underestimation for the 1974-76 biennium.

We believe that as we learn more about the factors affecting enrollments at the individual colleges and for the system as a whole we will be able to make considerable improvements in our future projections.

5. Management Information System

ITEM: Since most of the problems noted by the JLARC staff are data related or based, the VCCS is pleased with the concurrence of the JLARC staff that the system's Management Information System (MIS) must be implemented as quickly as possible.

The official records of the Virginia Community College System clearly indicate that the State Board for Community Colleges and the staff of the system recognized the need for and encouraged the implementation of automated systems and management information systems as early as 1967.

Implementation of such systems has been hindered by lack of sufficient funds.

We sincerely hope that this report of the JLARC staff will assist us in obtaining the understanding and support of the various state agencies whose concurrence is required in order that a Management Information System might be developed; and further that the JLARC staff report and the Commission will assist us in impressing upon the Legislature the need for making funds available to implement this System.

6. Planning

ITEM: The VCCS welcomes the support of the JLARC staff for the System's plan to implement the use of the Management by Objectives (MBO) technique to develop a plan for the operation and evaluation of the System and the colleges.

Master planning for the Virginia Community College System and for the establishment of the twenty-three colleges and thirty-four campuses which comprise that system is well documented.

The requirement for educational master plans, approved by the State Board for Community Colleges, is required by State Board policy and is being implemented. Extensive planning for the development of our automated data processing and Management Information System and for the curriculum offerings of the colleges can also be documented.

As the system moves from that phase of its evolution which placed major emphasis on the establishment of the twenty-three institutions to a phase of long-term development, a plan for the growth and evaluation of the institutions in the system will be developed.

On the recommendation of the college presidents and the department staff, the State Board for Community Colleges has determined that the Management by Objectives technique will be used in the development of this plan. A model for the implementation of this MBO program and a timetable for its implementation are available.

7. Student Classification

ITEM: We need to improve our student classification system.

We accept the conclusion in the JLARC staff report that we need to improve the existing system of student classification in order to support more effective curricular programming management.

The condition of increasing proportions of unclassified students is difficult to resolve, and indeed community college educators cannot agree about the best way to classify these students. The problem for us in Virginia can be solved partly by improvements in our current information systems through the Management Information

System modules for student admission and registration. These modules are being developed and will be implemented over the next two years.

8. Faculty Productivity

ITEM: The productivity of our faculty, on the average, exceeds budgetary requirements.

The State Board for Community Colleges' Guidelines for the Distribution of Budgeted Funds calls for 60 to 70 percent of our colleges' funds to be budgeted for instruction. During 1972-73, the actual figure was 62.1 percent--well within the Guidelines.

The Guidelines for Faculty/Student Ratios as published by the Budget Office, and the mix of programs in the VCCS, call for the average faculty member in the Virginia Community College System to produce 255 student credit hours per quarter. During 1973-74, the average faculty member in the system produced 259 student credit hours per quarter.

Since a reasonable portion of the funds appropriated to the colleges is being budgeted for instruction and since the faculty hired with those funds are producing at or above the level required by the Budget Guidelines, the system would appear to be making good use of its funds.

The JLARC staff report did devote considerable time to the discussion of the number of classes with 15 or fewer students. Since 70 percent of our educational effort is staffed at a 15 to 1 student-to-faculty ratio, we can assume that one-half of the classes in this area, or 35 percent of our total effort, will have 15 or fewer students. A significant number of classes with 15 or fewer students can be expected. This is in line with community college purpose and philosophy.

The JLARC staff report based its class size discussion on section size data from the State Council of Higher Education's A-1 report, and since sections and classes are not the same, the analysis becomes a problem.

A much more detailed study and cost breakdown is required if true course costs are to be calculated. Currently the WICHE financial package is available to our colleges for making these kinds of calculations. The WICHE package will become a part of our Management Information System as soon as the basic data generating packages have been implemented.

9. Counseling

ITEM: VCCS concurs with the JLARC staff report in the need for more counselors in the colleges.

On a system-wide basis, our counselor staffing conforms to existing guidelines. Our interpretation of counselor turnover in the system differs from that of the JLARC staff. We are not experiencing an excessive level of counselor turnover and the system does provide upward mobility and promotion opportunities for its counselors.

We do concur that the high percentage of part-time students currently attending the community colleges dictates that staffing for counselors be based on

headcount. We appreciate the JLARC staff's recommendation in this area and will proceed with the development of a headcount based formula for budgeting for counselors.

10. Program Approval

ITEM: The VCCS does have an effective program approval process.

The program approval process is fully documented and the results of its effectiveness can be seen from a review of programs which have been proposed by colleges but have never reached the State Board for Community Colleges or the State Council of Higher Education for final approval.

Further, the process provides for the permanent discontinuance of programs when they are no longer viable. The fact that the State Board has already discontinued or deactivated a number of programs can be documented.

11. Student Retention--Graduation Rates

ITEM: The VCCS must conduct more intensive studies to determine the reasons why some students complete their educational goals while others interrupt or terminate prior to reaching their goal.

The VCCS finds that the graduation rates we are experiencing compare favorably with national data.

Further, we believe that the JLARC staff's methods for calculating graduation rates missed some significant variables.

One cannot conclude that community college attrition represents failure. It may well represent a whole pattern of motivational characteristics which are reflective of the broad community college purposes. These purposes may include many objectives other than obtaining degrees, i.e., short-term skill development, occupational upgrading, and various forms of personal fulfillment.

We will continue our examination of this very important aspect of our operation. The MIS program for this function will be most helpful in future analysis.

12. College Transfer

ITEM: VCCS transfer students perform as well as or better than expected on transfer to four-year institutions.

As might be expected, studies of our transfer students' performance at four-year institutions indicate that students from some institutions do better than those from others; however, all studies conducted to date indicate that, on the average, our students do as well as or better than could be expected based on national data.

The quality of our associate degree transfer graduates is being recognized by senior institutions in the state, and we will continue our efforts to assure smooth transferability for our students.

13. Continuing Education

ITEM: The VCCS agrees with the JLARC staff that greater outreach and service to a larger segment of the Commonwealth's population is desirable.

Fall quarter 1974 credit enrollment figures show that we are serving nearly 14 of each 1,000 residents in the Commonwealth. Although we might agree that this reflects admirable progress for a system only nine years old, our goal is to serve 20 of each 1,000 by 1980 in order to fully implement the VCCS mission.

For the system to reach its goal of adequate service to the people in all geographic areas of the state, the community college must be free to go off the campuses and offer courses and programs in community locations such as schools, community centers, etc. We appreciate the recognition of this fact in the JLARC staff report.

We also appreciate JLARC staff's express support of funding of community service programs which would extend community colleges' services to even more people.

14. Special Training

ITEM: The Special Training Division of the VCCS has operated with the approval of the Legislature and the State Board for Community Colleges within the guidelines provided. We agree that additional records are required to provide for trainee follow-up and more detailed costing of the programs.

A review of the official records of both the State Board of Technical Education and the State Board for Community Colleges clearly indicates both Boards' commitment to the system's special training activities.

Further, these records clearly indicate that Mr. H. W. Tulloch was the chairman of a committee for the development of special training guidelines--not the guidelines' sole author. Many individuals both from the system and from outside the system were involved in the development of these guidelines.

A careful review of the activities of the Special Training Division of the Virginia Community College System indicates that the Division operated within flexible guidelines developed for the highly competitive industrial development needs. No industry or business receiving this service was given special or favored treatment.

We do know that from 1966-74, 870 new companies located in Virginia and 78,400 new jobs were created. An additional 844 companies expanded within the Commonwealth of Virginia during this period creating an additional 53,400 new jobs.

Many agencies and industries have contributed to this growth in Virginia, and the Special Training Division played a most important role. We are convinced that most of the problems encountered by the JLARC staff were related to the methodologies and procedures used in obtaining the basic data both from the Special Training Division and the industries.

Both the guidelines and record keeping are presently under study.

M E M O R A N D U M

TO: State Board for Community Colleges

FROM: Dana B. Hamel

SUBJECT: Actions and/or Recommendations - Joint Legislative Audit and Review Commission (JLARC)

DATE: April 16, 1975

We are submitting the following items to you with our recommendation that they be assigned to the appropriate committee for study and action. Several of these matters are in the process of implementation or study.

1. Most of the issues discussed in the JLARC staff report are either related to data, or based upon data. We will continue our efforts to shorten the timetable for the full implementation of the Management Information System (MIS).
   This will include, but not be limited to:
   a) request for shortening the time process for approvals from supporting state agencies.
   b) evaluation of the fiscal requirement for earlier implementation and preparation of appropriate request for the 1976-78 biennium budget.

2. We will determine the fiscal and manpower needs to fully develop a plan of operation and evaluation incorporating the techniques of Management By Objectives (MBO). We will prepare appropriate requests for funding in the 1976-78 biennium budget.

3. We will continue to refine our enrollment projection techniques for the colleges and the system.

4. We will submit to the State Board the results of an analysis, which is underway, of the guidelines for Special Training. We are examining ways to use the MIS for more effective record keeping for Special Training.

5. We will determine the staffing and fiscal needs for expanding the research and development staff of the department to meet the requirements for additional research and seek necessary funding in the 1976-78 biennium for implementation.

6. We will undertake studies to determine characteristics of attrition.

7. Develop a more definitive student classification system.

8. Undertake more extensive studies of our transfer students.

9. Continue our studies of our occupational/technical students.

10. Develop a plan for greater institutional outreach.

11. Examine our student-counselor ratios based on headcount enrollment and seek additional funding in the 1976-78 biennium for implementation.

12. Determine cost and need for clerical support for counselors.

13. Review program productivity and implement appropriate planning for more effective operation.

14. Continue study of the JLARC staff report with recommendations for action to appropriate committees where and when appropriate.

DBH/vd

GENERAL COMMENTS

JOINT LEGISLATIVE AUDIT & REVIEW COMMISSION
STAFF REPORT

Introduction:

To be evaluated in a professional manner by outsiders with the objective of improving the operation of an institution has long been standard practice in higher education. Indeed, educational institutions have historically supported this concept by requiring periodic examination through the accreditation process. The use of the institutional self-study technique and subsequent evaluation of both the institutional self-study and the institution's operations by a team of professionals, who are experts in the various fields of higher education and institutional management, is common; in fact, it is mandatory for accreditation. Your community colleges have been and will continue to be subjected to this rigorous and thorough process by educational and institutional management experts.

Evaluation by the Joint Legislative Audit and Review Commission (JLARC) adds another dimension to this continuing process.

This new dimension of evaluation can indeed be helpful, not only to this system but to other institutions and state agencies as well.

The community colleges have long been advocates of accountability; they sponsored some of the very earliest activity in this area in the South.

We welcome outside evaluation. Over the past year, we have been actively exploring with the Southern Association of Colleges and Schools' Commission on Colleges the naming of an evaluation team to look at the department and system functions, separate from the institutions--with the intent of improving our operations. This will be the first such activity in the nation.

The JLARC staff has been actively surveying the Virginia Community College System for over nine (9) months. An extensive analysis was undertaken, and properly so with a system of this size and scope. Great amounts of data have been collected resulting in JLARC staff conclusions which have far-reaching implications and require detailed analysis. The department has attempted in a little less than 30 days to prepare initial comments on the final report for the Commission. A great deal more time is needed to properly assess the report.

There are uses of data, conclusions drawn from the data, techniques of analysis, and even the data itself which must be examined carefully and thoughtfully before an in-depth review of the report can be completed; however we will, in this initial review, address the major issues;

-- The philosophy of the VCCS as set forth by the policies of the State Board and implemented by the staff of the system is in accord with Legislative intent and the directions provided by the Bird Commission.

-- The Virginia community colleges are following admission and counseling policies in accordance with the philosophy and purpose of comprehensive

community colleges.

-- All funds appropriated to the VCCS for the operation of its colleges during the 1970-72 and 1972-74 biennia were used to meet essential operating expenses and were expended in accordance with appropriate Executive and Legislative authority or were returned to the general fund.

-- VCCS enrollment projections have not been as accurate as we want them to be; however, working with the State Council of Higher Education we are making every effort to improve them.

-- Since most of the problems noted by the JLARC staff are data related or based, the VCCS is pleased with the concurrence of the JLARC staff that the system's Management Information System (MIS) must be implemented as quickly as possible.

-- The VCCS welcomes the support of the JLARC staff for the system's plan to implement the use of the Management by Objectives (MBO) technique for planning and evaluating the operations of the system and the colleges.

-- We need to improve our student classification system.

-- The productivity of our faculty, on the average, exceeds budgetary requirements.

-- VCCS concurs in the need for more counselors in the colleges.

-- The VCCS does have an effective program approval process.

-- The VCCS must conduct more intensive studies to determine the reasons why some students complete their educational goals while others interrupt or terminate their studies prior to reaching their goals.

-- VCCS transfer students perform as well or better than expected on transfer to four-year institutions.

-- The VCCS agrees with the JLARC staff that greater outreach and service to a larger segment of the Commonwealth population is desirable.

-- The Special Training Division of the VCCS has operated with the approval of the Legislature and the State Board for Community Colleges within the guidelines provided. We agree that additional records are required to provide for trainee follow-up and more detailed costing of the programs.

Analysis of these major issues in the body of this report will set forth plans for corrective action where appropriate. We comment to add more understanding to the overall analysis.

Outside assistance can be beneficial, and we welcome it. We recognize the possibility that an internal problem could escape detection by individuals thoroughly immersed in the system. The value of constructive criticism is appreciated and the Community College System will benefit from this analysis. We look to the JLARC staff report to strengthen our system. The readers will find many

positive statements about the system in the JLARC staff report. Much has been done by many people to meet the original wish of Mr. Jefferson--that a system of colleges be established, "Within a day's ride of every man's door."

We will continue our work with the Governor, the Legislature, and other appropriate bodies to provide the finest community college system in the nation.

LEGISLATIVE INTENT

ITEM:

The philosophy of the VCCS as set forth by the policies of the State Board and implemented by the staff of the system is in accord with Legislative intent and the directions provided by the Bird Commission.

The Community College Philosophy

Many individuals in the system were active with the Slaughter and Bird Commissions and worked with the legislature to draft the Bill to create the Virginia Community College System. Knowing the history and having participated in the development of the system, we sense that the JLARC staff has not understood the community college philosophy. Community colleges must be accountable, but they are indeed different.

The Bird Commission stated that the community college emerged in response to society's need to make available appropriate educational opportunities to all individuals who seek them and can profit by them. A primary role of the community college, then, is to extend educational opportunity, and the JLARC staff recognized that we have an accessible system.

The community college concept is based upon the idea that the quality of society is enhanced when citizens have ample opportunity to develop their abilities in directions consistent with their desires and the needs of society.

Virginia community colleges offer a broad array of educational programs. The statutes providing for the establishment and maintenance of a statewide system of community colleges state that a comprehensive community college offers; freshman and sophomore courses in arts and sciences acceptable for transfer in baccalaureate degree programs; diversified technical curricula including programs leading to the associate degree; vocational and technical education leading directly to employment; and courses in general and continuing education for adults in the above fields.

Excellence, high standards, and quality are discussed in the JLARC staff report in several places. All are present in our system.

The Bird Commission emphasized that the community college has a role distinct from that of four-year institutions. This is evident in the Commission's definition of excellence expected in the Virginia Community College System.

> Excellence should be interpreted not by comparisons with prestigious institutions, but in terms of the quality of education related to the purpose it is designed to serve...

In the Virginia Community College System, we define quality as the student being able to do well what we say he or she can do. Studies show that our students as a group, both transfer and occupational technical, are doing well.

The JLARC staff report correctly notes the standards expected by the Bird Commission:

Admission standards were not to unduly restrict any high school graduate from enrolling at a community college. The Commission on Higher Education, in fact, asserted admission policy should be "to provide every high school graduate who really wants an education the opportunity to prove he or she can successfully carry a program of college-level studies." It questioned the ability of any method to accurately predict an individual's capacity to do college work, and blamed restrictive admissions at four-year institutions on both lack of facilities and restrictive admission standards. Community colleges in contract were to provide an opportunity for "high school graduates of all levels of competence to continue their education." (emphasis added)

The Bird Commission and the Legislature were concerned about quality; receiving accreditation from state and regional agencies was spoken of many times as an assurance of quality. The Legislature was so concerned about assuring quality and excellence, defined in this manner, that it provided for a special advisory committee with legislators and others serving on it to make certain the community colleges received accreditation at the very earliest possible time.

The community college act states that"...the Board shall recognize the need for excellence in all curricula and shall endeavor to establish and maintain standards appropriate to the various purposes the respective programs are designed to serve (emphasis added)..."

The comprehensive Community College System of Virginia has implemented the goals set forth by the people of the Commonwealth through the Bird Commission, the Governor, and the Legislature.

The Colleges

The Virginia Community College System is composed of 23 community colleges--each different. It was necessary for the State Board for Community Colleges to develop an awareness of this difference, since this major characteristic of the system impacts greatly on the Board's policy-making activities. In consideration of the information presented in the JLARC staff report and any information about the Virginia Community College System, it is imperative that this difference be kept in mind.

Below are a number of the key characteristics which dictate significant differences between and among colleges:

Sizes of institutions
Number of campuses
Population density within 10-mile radius of campus (or campuses)
Cultural differences
Family income
Educational level of parents
Possibility of industrial employment per 1,000 population
Percentage of population served by college
Proximity of nearest state-supported, four-year college

In managing the community college system, the State Board for Community

Colleges and the State Department of Community Colleges have attempted to develop and implement policies, procedures, and regulations which recognize these differences insofar as possible. An attempt is made not to over-control to the point of eliminating local flexibility and the ability of the institution to effectively meet the specific needs of the citizens of the region it has been designed to serve. Further, the attempt is made to manage the system, not each of the 23 institutions, against the budget and staffing guidelines provided by the Budget Office and the State Council of Higher Education. This method of management and operation is key to the system if it is to provide a relatively uniform level of educational opportunities to all of the people of the Commonwealth.

Nevertheless, we do recognize the need to regularly monitor the individual college performance and effectiveness.

ADMISSION AND COUNSELING

ITEM:

Virginia's community colleges are following admission and counseling policies in accordance with the philosophy of the comprehensive community college.

Admission-Testing

The JLARC staff proposes that the community college use testing in the program admission process; however, in effect this would result in selectivity in program admissions. We do not find that testing for program admission is set forth as a requirement by either the Legislature or the State Board.

In Virginia community colleges, admissions are conducted on a college-by-college basis, varying according to the needs of the individual programs or courses. Admission to a college, program, or course normally is made by an admissions officer, an admissions committee, a division head, a dean, or a faculty member. For example, a committee composed of nurses may consider admission to nursing programs or courses.

Most community colleges in the United States have an open door policy for admission to the institution and to most programs (specialized programs, especially health and highly technical programs, do require certain basic prerequisites for program admission). Our developmental studies program provides opportunities for students to get their prerequisites while permitting program enrollment. The community college mission is to serve students, to permit everyone to try responsibly.

Community colleges have found restrictive requirements for admissions hinder the very people the system is designed to serve: the late bloomer, the "I don't know what I want to do" person, the individual who tests poorly, the educationally handicapped, the ethnic, cultural, and minority groups.

Testing is a tool to help in planning programs, courses, or direction. However, there are many problems with testing that have resulted in serious questions being raised about its value.

The Bird Commission itself, as stated in the JLARC staff report and previously mentioned, "...questioned the ability of any method to accurately predict an individual's capacity to do college work..."

Many prestigious four-year institutions have abandoned testing. Recently, we read in our own local newspapers that students are being taught test jargon to help them gain admission to institutions.

We can find no evidence which would support the JLARC staff's opinion that testing helps students stay in programs, reduces attrition, or assures quality performance. It is interesting to note that the three institutions listed in the JLARC staff report as using tests have among the lowest rates of returning sophomores.

At the recommendation of the Ad Hoc Testing Committee (chaired by Dr. M.

Douglas Reed), the Virginia Community College System discontinued statewide testing for the following reasons:

-- Testing did not accomplish the purposes for which it was intended at some colleges (generally those with large, diverse, bilingual student populations). The test results were inadequate for adults over 25 years of age and for individuals who had been out of school five years or more. Also, administrative problems resulted from large numbers of late registrants.

-- The tests did not provide adequate diagnostic data in skill areas such as mathematics, reading, and English.

It is obvious from the above that the VCCS did not discontinue statewide testing solely for the reason stated by the JLARC staff in its report: "because of the 'open admission' policy that allows students to walk in, make application and register for classes simultaneously."

Since 1973, the Virginia Community College System has required that SCAT test scores be used as a common indicator of academic ability for entering students. This permits an overall student body description without imposing a common requirement for admissions at all colleges.

Before concluding that testing is the answer to attrition problems or that more students will return, a more careful study is needed on why students drop out and why students stay. Such a study will be undertaken.

The Counselor's Role in Admissions

It has never been the role or function of a counselor to admit or deny admission to a college, program, or course.

The counselor's function is to help students by counseling, advising, and when appropriate, directing them. The counselor survey conducted by the JLARC staff confirms the mission counselors see for themselves. Results of that survey show that 76% of the counselors responding considered helping students identify education and career goals as a high work priority. We concur in that role.

The Bird Commission stated that the community college must provide good counseling and guidance services to perform its services effectively, and that the college is responsible for helping students "to achieve a self-understanding on the basis of which to make realistic educational plans." This agrees with the counselors' work priority perceptions identified by the JLARC staff.

Thus, the community college counselors, the JLARC staff, the Bird Commission and the VCCS are in agreement that the counselor's role is not to admit or deny admission to students but to serve in the vital role of counseling and guidance.

FUNDING

ITEM:

All funds appropriated to the Virginia Community College System for the operation of its colleges including the 1970-72 and 1972-74 biennia were used to meet essential operating expenses and were expended in accordance with appropriate Executive and Legislative authority or were returned to the General Fund.

On June 30, 1974, the State Board for Community Colleges returned $4,260,610 to the General Fund of Virginia. The balance of the funds appropriated during 1970-74 were used in accordance with appropriate executive and legislative authority.

The use of those funds is set forth herein:

Budget support - various colleges*	$1,679,263
Absorbed cost of Regrade - unbudgeted raises to classified employees appropriated by General Assembly and authorized by the Governor	$1,166,000
MIS Development (Department Administration)	$ 610,045
Computer purchase for Northern Virginia Community College resulting in annual rental savings of $144,000	$ 546,000
Library Books - Purchases will partially offset a book deficit for the system of approximately $2,000,000	$ 575,000
Capital - Matching Federal Funds (for purchases of essential equipment)	$ 287,702
Repayment of Loans:**	
Patrick Henry Community College	$ 203,000
Eastern Shore Community College	$ 75,000

*Funds were necessary to cover essential operating expenses including the absorption of inflational cost increases of our colleges.

**Additional cost resulting from the transfer of two colleges to the Virginia Community College System during the 1970-72 biennium without additional appropriation.

ENROLLMENT PROJECTIONS

ITEM:

VCCS enrollment projections have not been as accurate as we want them to be; however, working with the State Council of Higher Education, we are making every effort to improve them. As we improve our projection techniques, we will continue to make interim projections to keep the system, the colleges, and other appropriate state agencies continuously aware of the status of our enrollment.

We agree with the JLARC staff that our enrollment projection techniques and results during past years have not been as accurate as would be desired; however, projecting enrollments for rapidly developing community colleges is difficult. We firmly assert that our enrollment projections have never been intentionally inflated; over-projections have resulted from a number of factors common to a new system. Projections made since 1973 have been much closer to actual enrollments, but results demonstrate that some variances are unavoidable. Currently, our actual enrollments are above figures projected for 1974-75.

Enrollment projection techniques rely heavily on historical data. The projections for the 1972-74 biennium were developed in 1970 and early 1971, and the system simply did not have a historical base from which to project. Half the colleges had not been in operation at all, and most had operated for two years or less.

In addition to the lack of historical data, several other factors affected the accuracy of projections; the very rapid growth of many of the colleges in the system, the uncertainty and postponement of start-up dates for a number of institutions, and the end of the military draft which significantly affected 1972-73 enrollments both in Virginia and across the country.

Realizing that substantive errors had been made in enrollment projections at some colleges, the Chancellor notified the Budget Office in the fall of 1971 that at least five institutions were projected for enrollments higher than they were likely to meet. Working with the Budget Office, a portion of the General Fund Budget for five institutions was set aside in a restricted code and could not be used unless projections at those colleges exceeded the reduced figures. This in effect was a budget restriction.

In early 1972, because of the continuing concern for 1972-74 projections, the Department of Community Colleges prepared revised fall enrollment projection L-1 forms which reflected significant reductions in projections at a number of colleges. These revisions were submitted to the State Council of Higher Education.

Also, early in 1973, the enrollment projections on the Budget Form 2-B for the 1974-76 biennium reflected a considerable downward revision in the 1973-74 figures. These reductions were delivered to both the State Council of Higher Education and the State Budget Office. Both sets of forms indicated significant reductions in enrollment projections at many colleges for the years extending into the early 1980s.

Hindsight indeed shows that the enrollment projections for 1972-73 and

1973-74, upon which budgets were based, were high. They originally reflected our best judgment, and this judgment was revised both prior to and early in the biennium period as additional information was accumulated. Enrollment projections since 1973-74 essentially have been good, particularly on a statewide basis; however, college-by-college projections still reflect considerable variations. Because of different histories of our community colleges and the growth characteristics which we have been experiencing, there will continue to be some deviation in the individual college projections. However, we are confident that our statewide projections are accurate within acceptable tolerance.

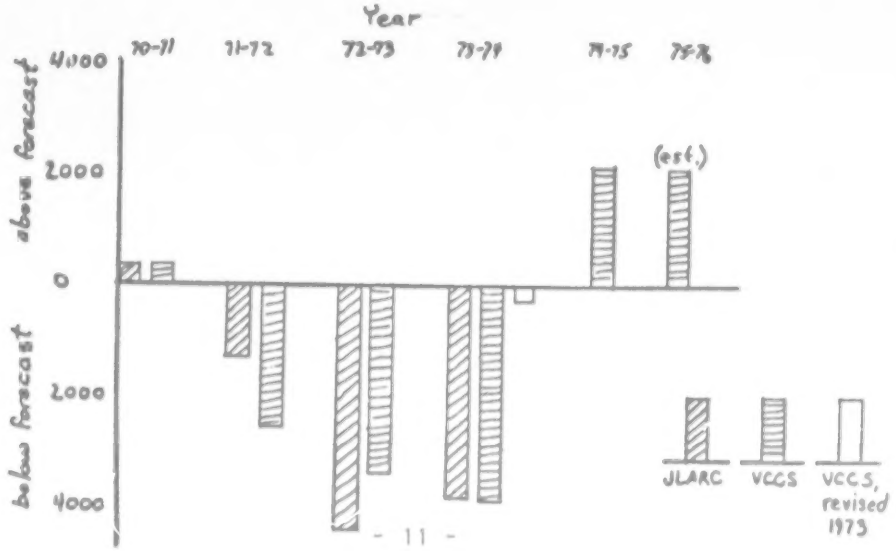
A principal ingredient of individual college variations from enrollment projections is the outreach leadership provided by each college's management team; and as those teams establish clearer track records, predicting their exact performance will become more accurate.

A summary view of VCCS enrollment projections and actual enrollments is helpful in showing the accuracy of the enrollment projections. Inaccuracies for 1972-73 and 1973-74 were previously noted and are shown on the chart below. However, the corrections made in early 1973 resulted in a close agreement with actual annual enrollments. For the current 1974-75 year, actual enrollments will exceed budgeted projections by more than 5%, and we believe the same will hold for 1975-76. This chart demonstrates several conclusions: (1) earlier projections for the 1972-74 biennium were high; (2) corrected projections for 1973-74 and new projections for 1974-76 are much closer to the actual mark; and (3) enrollment projections for the 1974-76 biennium are unlikely to match precisely the actual enrollments.

Projecting is a practical art. It is not a firm scientific procedure into which prescribed data can be assigned which will result in highly accurate results. We are still learning to anticipate the effect of changing economic conditions and other unexpected factors which result in projections which are less than totally accurate.

However, we believe that we are learning enough about the factors affecting enrollments at most colleges to make considerable improvement over past projections.

COMPARISONS OF ANNUAL FTE PROJECTED AND ACTUAL ENROLLMENTS, VCCS



MANAGEMENT INFORMATION SYSTEM

ITEM:

Since most of the problems noted by the JLARC staff are data related or based, the VCCS is pleased with the concurrence of the JLARC staff that the system's Management Information System (MIS) must be implemented as quickly as possible.

The State Board for Community Colleges recognized early (1967) in the development of the system that data are important to the development of the system for decision making, policy information, budgeting, evaluation, and the operation of an effective and efficient system.

In 1967, the State Board authorized the implementation of an automated data processing system. Thus, the ground work was laid for the collection of accurate, timely data--information to assist in the management of the system.

A brief chronological outline of the Virginia Community College System's activities since 1967, relative to the development of our Management Information System, is included in Appendix A.

We not only believe that such a Management Information System is mandatory for the efficient and effective operation of the Virginia Community College System, but we also strongly believe that similar type systems must be developed and appropriately integrated for the effective operation of all Virginia governmental agencies and institutions. We are concerned that new systems of data collection and analysis be developed that insure compatibility of data.

It should be noted here that although funds were requested in both the 1972-74 and 1974-76 biennia for the implementation of our Management Information System, such funds were not appropriated. Therefore, it has been necessary to "carve" the required funds from system appropriations.

This approach to funding for the Management Information System has created an uncertainty about the level of activity that can be supported and has caused some difficulty in planning and scheduling the activities of the program's development.

Further, the myriad approvals required from numerous State agencies, each with its own ideas about developing our Management Information System, have created continuing delays and frustrations. For example, on January 17, 1975, the Department requested approval to acquire outside software development support for the following MIS Subsystems:

1. Accounting
2. Admission
3. Registration
4. Position
5. Classified

6. Faculty

7. Payroll

As of this date, only completion of the Accounting Subsystem has been supported. Because of this non-approval, VCCS development of MIS has been delayed an additional three (3) months, and continued MIS development is in doubt.

Contingent upon the necessary approval, VCCS plans to expedite development by redirecting some of our scarce resources to MIS activities. We appreciate and need the strong support given MIS development by the JLARC staff report.

PLANNING

ITEM:

The VCCS welcomes the support of the JLARC staff for the system's plan to implement the use of the Management By Objectives (MBO) technique to develop a plan for the operation and evaluation of the system and the colleges.

Master planning has been essential in the development of the Virginia Community College System.

The legislative mandate to develop a comprehensive community college system prompted the State Board to develop the plan which resulted in the establishment of 23 community colleges and 34 campuses (two campuses are still in the developmental stage). The JLARC staff report noted that the plan specified curricular programs for each college based on population projections, community interest surveys, and manpower needs.

Each college has been required by the State Board to formulate an educational master plan.

5.46 Educational Master Plan (SB)

> Each college is required to formulate an Educational Master Plan. This plan will be presented to the State Board for Community Colleges for its consideration and approval. Subsequent to approval by the State Board, the respective college's Educational Master Plan will be modified and updated to provide viable planning documents at all times....

A master plan cannot be rigid. Local college flexibility must be provided to meet local needs, within the format of the State Plan.

Planning Activities

The advent of the Federally legislated 1202 Commission was to have provided considerable funds for planning post-high school education, and our system had expected to be a beneficiary of sufficient funds from that source to update, refine, and extend the original master plan. These funds did not materialize. Although these commissions are now implemented in almost every state (a commission in Virginia is being implemented this month, April 1975), funding remains in considerable doubt.

The Virginia System has not been idle, however. As early as 1967, the State Board had under consideration the development of a means to gather appropriate data to aid in the decision-making process, provide for long-range planning, and help begin the process of the Management by Objectives.

The direction followed had to be taken in terms of available funds, timing, realistic prospects for implementation, and relationship to other state agencies.

The first step was the development of an Automated Data Processing Master Plan with transition to a Management Information System.

Delayed at the time, but presently ready to be adopted is the Management by Objectives program, which will indeed provide the basis for developing a plan of operation and evaluation for the System. It will provide means to monitor the progress of the Community College System and the individual colleges on a regular basis.

The model has been reviewed by department staff, the steering committee of the Advisory Council of Presidents to the Chancellor, and, upon their recommendation, approved by the Chancellor for recommendation to the State Board.

The Management by Objectives program and its implementation schedule will be considered by and acted upon by the State Board either at its meeting on April 16, 1975, or at the summer meeting.

Some of the characteristics of the MBO which the State Board will consider are:

1. Develop missions and goals for the Community College System.

2. Develop and approve one and five-year Virginia Community College System objectives, educational impact goals.

3. Develop individual college missions and goals which will tie in with the System's missions and goals.

4. Approve individual colleges' one and five-year objectives and means toward implementing them.

5. Provide for appropriate reports to monitor implementation of goals and objectives for the System and the institutions.

The Management by Objectives program must be developed with the State Board for Community Colleges establishing a mission statement, goals, and objectives for the total Virginia Community College System. From the State Board's mission statement and broad goals and objectives, it then will be possible for the Department and the individual colleges to formulate mission statements, goals, and objectives which relate both to the specific needs of their regions and to the overall goals and objectives of the system.

The development of this Management by Objectives program will require, as an integral part of the total program, that each college in the system redevelop its Educational Master Plan.

Although not stated in the JLARC Report, the JLARC staff was aware of our efforts in this area. It is our understanding that the JLARC staff supports the MBO approach and would encourage our implementation of this program as rapidly as possible.

For the Management by Objectives program to be a success, those who are evaluating that program externally must realize that community colleges are assigned a different educational mission, and are indeed different from the

four-year colleges and universities in the State.

Our plan for operation and evaluation and our program of Management by Objectives will be operational by 1977-78. This is subject to support from the Joint Legislative Audit and Review Commission and other agencies, and full funding.

The Virginia Community College System Master Plan has served well; however, changes are needed and plans are underway to update it.

STUDENT CLASSIFICATION

ITEM:

We need to improve our student classification system.

We accept the conclusion in the report that we need to improve the existing system of student classification in order to support more effective curricula programming management. We have been struggling with this problem for several years. We believe that the new admission and registration modules of our Management Information System will allow at least a partial solution to this problem.

The JLARC staff's reclassification method used existing student intent as the determiner for program classification. Certainly student intent should be a basic criterion for student classification, but there are other realities however which must also be recognized: 1) students' readiness for entering the program which is declared, 2) awareness of what is required in the educational program of their choice, and 3) community college students' intent and perception are subject to change. In fact, we believe that a major aspect of the community college learning experience is that the student will identify more clearly his educational goals as a prelude to or concurrent with successfully pursuing them. We believe that the JLARC staff approach to student program classification was inadequate, although its purpose was well-intended.

Student program intent was obtained from a mailed student questionnaire--a questionable technique upon which to base a significant decision about student classification. This technique ignores several realities, previously indicated, which are associated with the educational purposes of a community college. In addition, many community college students are quite uncertain about their educational and personal goals.

We are also concerned about a JLARC staff suggestion that a dichotomy be established in community college education between "continuing education" and "regular" students. The fact is, a large proportion of community college students strongly reflect characteristics which have been traditionally associated with continuing education. For example:

* Many students are motivated to attend college years after completing high school.

* Many students are actively searching for educational and occupational goals at the time of entry.

* Many students have goals which are immediate in nature and can be served by one course or a brief course sequence, although the goal may be career oriented, oriented toward transfer to a four-year institution, or oriented toward personal satisfaction.

* Community college students reflect a broad age group. Two-thirds are beyond the traditional 17 through 22 year old college age group, with many in their 30's and 40's.

* Many students enroll part-time. Their primary activity is other than college study, such as full-time employment, homemaking, the military services, etc.

* Their educational purposes vary. Purposes may include job advancement, job preparation, general education, developing learning skills, and developing other skills necessary for self sufficiency, or combinations of these purposes.

We think that an improved approach to curricular classification might include a secondary classification according to full-time/part-time enrollment and short-term basic program completion goals. We intend to pursue this objective. We acknowledge that the concern of accurate student classification in combination with good counseling services and adequate educational programs should receive our highest consideration.

The condition of increasing proportions of unclassified students is difficult to resolve, and indeed community college educators cannot agree about the best way to handle this problem. The problem for us in Virginia can be solved partly by improvements in our current information system through the Management Information System modules for student admission and registration. These modules are being developed and will be implemented over the next two years.

FACULTY PRODUCTIVITY

ITEM:

The productivity of our faculty, on the average, exceeds budgetary requirements.

A major management concern in the Virginia Community College System is the productivity of the faculty.

Our primary function is teaching students. Therefore, our principal concern is for the portion of the total budget actually being expended for instruction and the actual number of student credit hours generated per full-time equivalent faculty member hired.

Table I indicates that the Virginia Community College System compares favorably with the guidelines established by the State Board for Community College for the distribution of our dollars between various budgetary categories.

TABLE I

DISTRIBUTION of BUDGETED FUNDS

Budget Activity	Guideline %	Actual 1972-73 Average %
General Administration	2 - 6	
Student Services	6 - 12	20.4
General Expenses	2 - 6	
Instruction (including summer session)	60 - 70	62.1
Learning Resources Center	5 - 6	5.7
Community Service	1 - 3	1.7
Physical Plant	10 - 15	10.0

Obviously, the size and age of the institution makes a difference on the distribution of funds between and among these categories resulting in a variance from institution to institution. To function as a system and to provide equal opportunities for all citizens of the Commonwealth, such variation is necessary.

Within State policy, the State Board for Community Colleges requires the Chancellor to manage the system in the best interest of the people of the Commonwealth while leaving institutional management to the college presidents. The needs of the regions and the Commonwealth can best be served by the institutions in this way.

Once it has been determined that the available funds have been appropriately distributed among the various budgetary categories, the issue becomes one of determining if the institution or the system is producing adequate output for the dollars invested.

Faculty Productivity

Student-to-faculty ratio is the major budgetary parameter used by the Legislature, the Budget Office, and the State Council of Higher Education. A ratio of 15 to 1 for occupational/technical and developmental programs and 20 to 1 for college transfer programs is used. The distribution of workload and types of programs which currently exist in the Virginia Community College System require that the average student-to-faculty ratio be approximately 17 to 1. Based on a 17 to 1 student-to-faculty ratio, each full-time equivalent faculty member in the Virginia Community College System must produce an average of 255 student credit hours per quarter.

In applying this average faculty productivity formula, it should be understood that the Virginia Community College System must staff some classes and programs at 10 to 1 or lower ratios. These ratios are either required by law, by outside agencies such as the medical health fields, by hazardous equipment or environment as encountered in some laboratory courses, or by the meticulous nature of some learning experiences associated with certain occupational/technical laboratories.

Even with these low student to instructor ratios, our actual faculty productivity, which averaged 259 student credit hours per quarter for 1973-74, is somewhat above the average required to meet our student-to-faculty ratio guidelines.

The JLARC staff faculty opinion survey indicated that the productivity was substantially higher.

For our occupational/technical programs, the proof of the quality of this instruction lies in the satisfaction of the student and his employer with the performance of the student. In 1972, a follow-up study of our former occupational/technical students, both graduates and non-graduates, was undertaken. Results from this study indicate a high degree of satisfaction by former students and employment was generally in jobs related to their community college preparation.

The Joint Legislative Audit and Review Commission staff has a copy of one report from the study. A second report has just recently been completed, and a third is nearing completion.

Class Size

The report of the JLARC staff devotes considerable space to an analysis of class sizes--particularly the apparent large number of small classes in the Virginia Community College System. Additionally, the JLARC staff recommends that some minimum class size standard be established.

The JLARC staff report does not indicate as clearly as it should that our staffing guidelines dictate that many of our classes have 15 or fewer students.

It must be understood that the JLARC staff used section size data and has referred to it as class size data. Classes and sections are <u>not</u> the same. It is quite possible to have two or more sections in one classroom, and in the case of directed study and co-op sections, to have sections which require no classrooms. The computer printouts for several faculty, attached as Appendix B, show why class/section size analysis alone can be misleading.

Since 70 percent of our educational effort is staffed at a 15 to 1 student-to-faculty ratio, we can assume that one-half of the classes in this area, or 35 percent of our total effort, will have 15 or fewer students. Thus, to have 40 percent of the classes in the system with 15 or fewer students is not unexpected.

The number of sections with 15 or fewer students, fall quarter 1973, was less than 41 percent. It then follows that a smaller percentage of classes had 15 or fewer members since, as explained earlier, several small sections are often taught as one class.

Since institutions in the system vary in age, size, program mix, and use of non-traditional instructional techniques, it is expected that there will be a wide variation in section size distribution from institution to institution.

Good management practices dictate that major characteristics of any system be defined and standards set for those characteristics. Flexibility to direct secondary management characteristics is necessary to assure that the primary goal is achieved. Since we already have established standards for faculty productivity, it would seem unnecessary to establish some arbitrary and overlapping standard on class size which would adversely effect the institution's ability to manage its programs to accomplish the best balance of faculty productivity, quality, and outreach.

The JLARC staff report contends that VCCS could have saved $500,000 during 1973-74 if no individual college exceeded 44.9 percent of its classes with fewer than 15 students. Since the JLARC staff used section data rather than class data for these calculations, the validity of the result is questionable.

The average faculty member in the system is already producing above the capacity established by the budget guidelines and any move to further increase this productivity may result in adverse personnel relations.

It should also be understood that cutting out small classes could result in reduced faculty productivity rather than reduced cost. This may occur when faculty carry small classes in addition to their regular load or have full loads made up of a number of small sections.

Specialized Program--NUCLEAR TECHNOLOGY

The JLARC staff report discusses several programs as costly including the nuclear technology program at Central Virginia Community College which is still in the planning stage. The full program has not yet been implemented at the College.

It was anticipated that the program would begin with fall quarter 1974 and a few students were admitted to the program. When it was determined that curriculum development and equipment acquisition would require an additional year, these students were informed of the change.

Although the full program was not begun, a limited number of courses, principally for part-time students employed by Babcock & Wilcox, were offered.

The JLARC staff developed its 1974-75 cost figures by dividing this relatively small number of students into the total 1974-75 expenditures budgeted

for the development of this program resulting in a distorted program cost.

Course Cost

The annualized course cost figures developed by the JLARC staff omit several very important characteristics which are essential; therefore, the validity of the conclusions is questionable.

At best, one would have to assume that the course being analyzed is taught to an equal number of students each quarter of the year and that the dollars charged to the particular course area represent the cost of teaching only those courses. The dollar value obtained would permit a relative comparison between colleges. However, most courses are not taught in equal amounts each quarter and many faculty teach in multiple disciplines--a fact not accounted for in the data used by the JLARC staff.

Effects of variations in instructional load across quarters and across disciplines follow. If a large portion of the particular courses's annual output were developed during fall quarter, the JLARC staff analysis would show a relatively low course cost. On the other hand, if a very small portion of the same course's annual output were developed during fall quarter, their analysis would show a relatively high cost. Further, if a portion of the faculty assigned and funded through the budget of the course area being studied actually taught courses outside their area, the course cost figures developed by the JLARC staff would be fictitiously high. On the other hand, if a number of faculty assigned to other curriculum areas were to devote a portion of their time to teaching in the course area under consideration, the course cost as calculated by the JLARC staff technique would be fictitiously low.

Because of these inconsistencies, there are great problems with the conclusions.

Using the example on page 115 of the JLARC staff report which compares drafting and design technology at Northern Virginia and New River Community Colleges, the problem with using data collected for one purpose and used for another is evident. The JLARC staff report states that the cost of drafting at Northern Virginia Community College was $1,617 per full-time equivalent enrollee while at New River Community College the cost for a similar course was $840 per full-time equivalent enrollee.

If the expenditures used in these calculations are corrected by adding costs where faculty members from other divisions have actually contributed to the instructional effort in drafting and subtract dollars where drafting faculty have contributed to the instructional effort in other course areas, one finds that the actual cost, annualized on fall quarter enrollments, is $1,080 per full-time equivalent enrollee at New River and $663 per full-time equivalent enrollee at Northern Virginia. Not only have the cost figures changed considerably, the relationship between the two institutions is reversed.

It should also be noted that the enrollment from quarter to quarter at New River Community College varied by approximately 10 percent while the enrollment from quarter to quarter at Northern Virginia Community College varied by nearly 30 percent. This further variation in data cause the kind of inconsistencies which render the results essentially unusable.

ITEM:

VCCS concurs with the JLARC staff report in the need for more counselors in the colleges.

Effective counseling is most important in a community college.

Staffing patterns vary throughout the country. However, we find that our 250 to 350 full-time equivalent students to one counselor is generally acceptable.

We welcome the JLARC staff recommendation that we develop formula based on head count for the budgeting of counselors. This supports our concern for counselor workloads which have changed significantly in recent years. The proportion of part-time students has increased to more than 60% of our student population. This change in part-time students has increased the number of student contacts a counselor must make.

Turnover

Our interpretation of counselor turnover differs from that of the JLARC staff.

Of the 138 counselors in the system only 18 or 13% have left the system. A review of the reasons given by those counselors for leaving are listed below:

Home Responsibilities	-- 3
Better Job	-- 9
Leaving Area	-- 2
Ill Health	-- 1
Personal Reasons	-- 1
Return to School	-- 2

Upward mobility is possible in our system especially during these early development stages. Four of our presidents have been counselors. Counseling coordinator, deanships and related positions are available.

It is expected, of course, that there will always be some who will leave for more money. This is regrettable but predictable.

We are pleased with the favorable reaction to the system recorded in the JLARC staff survey of counselors. We look forward to better counseling staff ratios, workloads, and support staff for the next biennium.

PROGRAM APPROVAL

ITEM:

The VCCS does have an effective program approval process.

Program productivity and curricular expansion are indeed important. Evaluations, of course, must consider community college philosophy, purposes, objectives, and related local community college factors. Regular and careful monitoring is essential, and refinement of techniques is a constant and ongoing process.

The JLARC staff report emphasizes productivity standards in accordance with guidelines established by the State Council of Higher Education for Virginia. State Council guidelines were adopted on April 2, 1974, and we are working closely with the State Council to evaluate and implement these guidelines.

Program Approval

The approval process for curricula to be offered at community colleges is comprehensive and extensive, although there is an implication in the JLARC staff report that our curriculum development process is not effective. Appendix C gives a schematic outline of the curriculum approval process.

The thorough review for new curricula eliminates many proposed new curricula before they reach the State Board for Community Colleges or the State Council of Higher Education. They do not meet the standards of either the Board or the Council. Many programs are "disqualified" during this review process and never reach even the departmental level.

Appendix D gives a list of some programs which have been proposed by colleges but have never reached the final approval step.

The State Board for Community Colleges, prior to the State Council's recent action, had already deactivated or discontinued unneeded or non-productive programs in the system. We shall continue to do so in cooperation with the State Council.

Legislative mandate requires that community colleges, within reasonable limits, be as diversified in offerings as possible. While we concur in the need for appropriate program productivity, we have not been inactive in this matter in the past. Also, we will continue our efforts to improve this important curricula review and approval procedure.

The JLARC staff report lists programs that have had graduates at various community colleges which the report alleges have not received proper State Council approval. Careful examination of the record shows that with the exception of two programs, all have been approved--clerical error accounts for both. They are now in the process of approval.

STUDENT RETENTION - GRADUATION RATES

ITEM:

The VCCS must conduct more intensive studies to determine the reasons why some students complete their educational goals while others interrupt or terminate prior to reaching their goal.

The JLARC staff report showed figures for student retention related to sophomore status and for graduation rates. We believe the JLARC staff methods for calculating these figures are inadequate; consequently, results are inaccurate. Results of our own calculations are shown, and our methodology is explained in the paragraphs which follow.

Our findings are that for full-time VCCS students, 49 percent re-enrolled to start their second year at a community college, although many of these were technically still freshmen. Of those students who initially enrolled full time, 31.5 percent are estimated to earn graduation awards over a five-year period. These figures are consistent with results found at community colleges generally.

In calculating retention rates, the JLARC report compared numbers of full-time students who returned as sophomores to numbers of first-time, full-time students enrolled the previous fall. We do not believe this comparison is an appropriate basis for calculating attrition rates at our colleges for reasons noted in the next paragraph.

First, it must be remembered that a sizeable portion of our first-time, full-time students do not enter as fully academically qualified for their chosen curricula. They take varying amounts of developmental work along with their regular course work or before embarking on their regular course work. Sophomore status for VCCS students is reserved for those who have completed 45 or more credits applicable to their program of study. Therefore, it is not unusual for these students to return in the fall of the following year still classified as freshmen rather than as sophomores. Second, it is not uncommon for community college students who enroll during the initial quarter as full-time students to change to part-time status during subsequent quarters. This occurrence should not be seen as negative. Because the colleges are located within commuting distance of the students' homes, many continue to attend as part-time students rather than dropping out completely.

Our students often require more than the minimum calendar time to complete programs. Just half of those who earn two-year associate degrees at community colleges do so within two years, an additional one-fourth require a third year, an additional 15 percent require a fourth year, and some require five years or longer. Large numbers of our graduates had been enrolled part-time for at least one academic session during the process of completing their educational program. Related to part-time enrollment, we need to remember that three-fourths of our students are employed while attending the community college.

In viewing community college student retention, it is necessary to look separately at full-time and part-time students to the extent possible. A just-completed computer analysis of all students who were enrolled for the first time, full-time, during the fall of 1971 showed that 68 percent were still enrolled

during the spring quarter of their first year, and 49 percent were re-enrolled for the start of their second year. At the end of the second year, spring 1973, 40 percent of those who were originally full-time were still enrolled.

We know that those who do not continue for two or more years withdraw for a number of reasons: (1) some complete one-year certificate programs; (2) some transfer to senior institutions; (3) some leave college, at least temporarily, in order to take full-time employment or because their motivations were more strongly oriented toward employment than academic study; (4) some quit because of academic failure; (5) some leave because of lack of financial support. These reasons have been documented in a recent follow-up study of our former students and in recent studies of community college students in other states.

We acknowledge that much work is needed to assess more accurately reasons for student attrition at community colleges. In the absence of such data, however, one cannot conclude that community college attrition represents failure; it represents a whole pattern of motivational characteristics which are reflective of the broad community college purposes. These purposes may include many objectives other than attainment of degrees, i.e., short-term skill development, occupational up-grading, and various forms of personal fulfillment.

Graduation Rates

The JLARC methodology used in developing graduation rates is obscure and cannot be replicated. Their methodology appears to be appropriate to colleges whose enrollments remain constant from one year to the next and whose students are oriented to continued full-time study. Neither condition fits the VCCS. The JLARC conclusions indicate graduation rates ranging from 12 to 24 percent, overall. We have just completed a study of all first-time, full-time students who enrolled during the fall of 1971. Our results showed that 23.6 percent have earned graduation awards sometime during the three-year period ending with the spring quarter, 1974, which suggests that 31.5 percent will graduate within a five-year period. This five-year graduation rate is based on our knowledge that just three-fourths of our students who graduate do so within a three-year period (23.6 divided by .75 equals 31.5).

Considerable research is needed to determine what additional percentage of these first-time enrollees transfer to other institutions to complete educational programs there. Recent longitudinal studies of college students show some persistence toward completing programs over a ten-year period, longer than our community colleges have existed. Our follow-up studies indicate that large numbers of our students who are not currently enrolled--as many as half--indicate that they do intend to return for further study.

Although we are working on and do have much to learn about our students' personal goals and rates of retention and graduation, it is clear that these actual rates are higher than indicated in the JLARC report.

We will continue our examination of this very important aspect of our operation. The MIS program for this function will be most helpful in future analysis. Meanwhile, the evidence indicates that our student graduation and retention rates are, overall, similar to those found in more mature community colleges in other states.

COLLEGE TRANSFER

ITEM:

VCCS transfer students perform as well as or better than expected on transfer to four-year institutions.

Considerable effort has been exerted during past years toward articulation of students transferring from community colleges to four-year colleges and universities in Virginia. To our knowledge, no qualified VCCS student has been denied appropriate credit or transfer to a public or private institution of higher education in Virginia. Also, studies by the State Council and the JLARC staff show that VCCS transfers to senior colleges, overall, have performed well. We acknowledge that not every transfer student has been successful, and we need to learn more about why some students fail. However, only a minority of community college students actually transfer to senior colleges; far more are oriented toward occupational-technical objectives or other short-term personal objectives.

The State Board for Community Colleges and the State Council of Higher Education began taking action early to assure transferability of VCCS students to senior institutions in Virginia.

The Department of Community Colleges and the State Council, nine (9) months after the beginning of the Community College System, established an Articulation Committee consisting of representatives from four-year colleges and universities and the community colleges in Virginia. In 1969, this group developed and recommended guidelines to be followed for transfer from community colleges to senior institutions. These guidelines were updated in 1971 and are presently under review. (A copy is included as Appendix E.)

In 1974 this group also employed Dr. Davis Y. Paschall, President Emeritus of The College of William and Mary in Virginia, to work with the senior institutions, both public and private, and the community colleges to provide for a smoother transfer of our students to their institutions and their students to ours. Thus, much has been and is being done to aid our transfer students.

The decision to accept or reject a student as a transfer student has traditionally been with the receiving institution. This philosophy and its implementation has existed for generations, is historic, and in our judgment must be preserved.

Many individual senior colleges have taken the initiative to promote the orderly transfer of community college students and their credits. The Virginia Commonwealth University transfer guide is only one of many fine examples of outstanding cooperation between and among our public and private four-year institutions. Averett College's arrangement has been noteworthy, although it was not mentioned in the JLARC staff report. Others include Virginia Polytechnic Institute and State University, a pioneer in the early acceptance of our students, and Old Dominion University. The Virginia Military Institute Board of Visitors changed its policy to enable juniors to transfer. Special arrangements were developed early in the system's history between Central Virginia Community College and

Lynchburg College. There are other examples. Nevertheless, work continues on this important aspect of our system's commitment.

Probably no aspect of community college education has been researched more than the transfer process from community colleges to senior institutions and the performance at senior colleges by community college students. This traditional interest is based on the fact that the first junior colleges were essentially feeder institutions to four-year colleges. Even though the community/junior college mission since the 1960's has been significantly broadened so that the transfer function is just one of several, many people continue to over-emphasize its transfer function. The Virginia Community College System clearly places a primary emphasis on occupational-technical education although it does include in its mission the first two years of a college transfer education leading to an associate degree. It is interesting to note that just one-third of Virginia Community College graduates come from transfer programs with the remaining two-thirds from occupational-technical programs.

A study completed by the State Council of Higher Education in 1972 established that transfer students from Virginia Community Colleges were performing at a level consistent with the findings of earlier studies in other geographical areas. A grade point drop from the average earned at community colleges to that initially earned at four-year colleges was noted. This phenomenon was identified in the early 1960's and labeled "transfer shock."

Commonly, students experience a significant drop in grade point average (GPA) during their first enrollment session at the senior institution and then rebound toward their earlier community college average. One national study found that the overall drop averaged about .30 grade points. A more recent study in a neighboring state showed that transfers initially dropped .42 grade points from their community college average, but their achievement subsequently rose to result in a cumulative drop of .24 grade points.

The study by the JLARC staff found a drop of .23 GPA by VCCS transfers. Thus, former VCCS students, on the average, are performing on the level of community college transfers nationally.

The JLARC staff study also found that VCCS transfer students earned a 2.42 GPA. Their analysis was directed toward establishing different performance levels by colleges, and they found that transfer students from some community colleges did better than those from other community colleges. We believe there is value in this analysis, and we are deeply concerned about the reasons why sizeable numbers of transfers from some institutions earn grade point averages of less than a "C".

Relevant Transfer Factors

In order to investigate performance differences by college, it is important to look carefully at whether the transfer student had completed one of the two associate degrees intended for college transfer students. The State Council study of VCCS transfer students showed that community college students who completed associate degree programs in college transfer areas experienced a minor drop of .18 GPA and earned a commendable 2.55 GPA--midway between a B and C average. Those who did not complete two years of a college transfer program or who completed

a two-year program oriented toward immediate employment rather than college transfer performed notably less well.

An investigation of those students at one college who were included in the JLARC staff survey and who did not fare well in transfer performance revealed that many were previously enrolled in occupational-technical programs, had completed one year or less in transfer programs, had a poor record prior to transfer, transferred to programs not related to previous study in a community college and/or did not have a recommendation from the community college to transfer.

The nature of the program completed and the amount of work completed at the community college are essential determiners of the performance at four-year colleges by VCCS transfer students. Students who do not complete a program often transfer successfully, but VCCS accountability should be less pronounced if a student has not completed his program or has not been recommended by the community college to the receiving senior institution. The practice of recommendation by the local community college has value, and it may need to be strengthened.

We need to guard against the expectation, however, that all students who have attended a community college prior to transfer to a senior institution will succeed. Because community colleges are open to persons of modest abilities and to persons for whom college attendance is secondary to their primary activity, some students may fail to perform at a satisfactory level. The evidence to date indicates that community college education for transfer students is successful although there are some limitations.

The quality of our associate degree transfer graduates is being recognized by senior institutions in the State, and we will continue our efforts to assure smooth transferability for our students.

ITEM:

The VCCS agrees with the JLARC staff that greater outreach and service to a larger segment of the Commonwealth's population is desirable.

We agree completely with the JLARC staff's conclusion that Virginia community colleges must move out and provide educational and training opportunities for a much larger segment of the population. We have been in the building process, and time and effort have been directed to this initial development phase. This report should help us get the necessary support to accomplish this next phase on schedule.

A proposal is now being developed for consideration by the State Board for Community Colleges and eventually by the Legislature which will designate the community college service region as the institution's campus. This would provide the flexibility needed by the colleges to implement a program of community college outreach in the Commonwealth.

Fall quarter 1974 credit enrollment figures show that we are serving nearly 14 of each 1,000 residents in the Commonwealth. Although we might agree that this reflects admirable progress for a system only nine years old, our goal is to serve 20 of each 1,000 residents by 1980, in order to fully implement the VCCS mission.

Current enrollments show broad variation by colleges ranging from a low of 6 to a high of 20 students per 1,000 residents. Approved L-1 enrollment projections for 1980 specify an expected service range among colleges from a low of 8 to a high of 29 per 1,000. (See Headcount Students Enrolled Table, Page 31.)

At this stage of VCCS development, it is apparent that we cannot expect each of the 23 community colleges to perform equally. Some rural colleges have not met enrollment expectations, but other colleges have. We are concerned about these different rates of service by our colleges even though our current L-1 projections through 1980 and beyond are essentially conservative extensions of past performance at each college.

For the system to reach its goal of adequate service to people in all geographic areas in the State, the community colleges must be free to go off their campuses and offer courses and programs in community locations such as schools, community centers, and so forth. We appreciate the recognition of this fact in the JLARC staff's report. We also appreciate the JLARC staff's expressed support for funding of community service programs which would extend community college services to even more people.

NUMBER OF FALL HEADCOUNT STUDENTS ENROLLED PER THOUSAND RESIDENTS IN EACH COMMUNITY COLLEGE REGION

College	1974	1980
Blue Ridge	9.2	12.5
Central Virginia	15.1	18.5
Dabney S. Lancaster	10.0	14.1
Danville	14.9	15.0
Eastern Shore	8.8	15.0
Germanna	6.4	7.5
J. Sargeant Reynolds	12.5	25.0
John Tyler	6.7	8.1
Lord Fairfax	8.1	11.6
Mountain Empire	11.8	17.0
New River	15.1	21.7
Northern Virginia	20.3	29.0
Patrick Henry	9.3	13.6
Paul D. Camp	18.3	18.5
Piedmont Virginia	13.9	20.1
Rappahannock	9.6	16.6
Southside Virginia	9.8	14.8
Southwest Virginia	15.6	19.8
Thomas Nelson	11.5	16.7
Tidewater	10.7	17.9
Virginia Highlands	16.0	18.0
Virginia Western	18.1	20.8
Wytheville	14.3	19.3
VCCS	13.5	19.7

SPECIAL TRAINING

ITEM:

The Special Training Division of the VCCS has operated with the approval of the Legislature and the State Board for Community Colleges within the guidelines provided. We agree that additional records are required to provide for trainee follow-up and more detailed costing of the programs.

A review of the history and development of the Special Training Division will affirm that it was authorized by both the Technical Board and the Community College Board.

Minutes of the State Board for Technical Education, meeting on October 30, 1964, record the beginning discussions on this matter.

The December, 1964, minutes show approval of the position of Director for Special Programs and Training with responsibility for:

a) Work with existing industry on training programs

b) Work with industrial development office to train for new industry

At a Technical Board meeting on August 11, 1965, the Special Training program was discussed and it was reported that the Governor had directed that this phase of training be included in the Department of Technical Education budget for the biennium. Further discussion resulted in the decision to call this phase of the departmental endeavors, "Special Training Programs."

The State Board for Technical Education at its September 23, 1965 meeting, created a special subcommittee to develop a set of Policies, Procedures, and Regulations for Special Training. Mr. E. B. Sydnor, chairman of the State Board, named Mr. H. W. Tulloch as chairman and Mr. Gordon C. Willis and Mr. C. Wesley Peebles as committee members.

The JLARC staff report implies that Mr. Tulloch was the sole developer of the Special Training guidelines. Mr. Tulloch, as chairman of a subcommittee, did not develop these guidelines alone. Many persons and organizations in the business, industrial and professional community were consulted. Legislators, the Director of Industrial Development, Mr. Hamrick, and Mr. Holmquist also were consulted.

At its November 30, 1965 meeting, the Technical Board adopted, with minor revisions, the guidelines drafted by the subcommittee on November 17.

A report was made by the Special Training Division at the first meeting of the Community College Board on July 15, 1966. A program outline of the Special Training Programs guidelines was ordered at the same meeting, with a copy to be mailed to the presidents and members of the State Board for Community Colleges.

A copy of the approved departmental organization was distributed to the Community College Board dated September 9, 1966, showing the Special Training

Division as a part of the department and system.

Minutes of the September 28, 1966 meeting, show direction of the chairman to include Special Training activities in the director's report. The Policies, Procedures, and Regulations were reviewed and adopted at that meeting and included the Special Training Division as a part of that document.

On this point then, there would appear to be ample evidence that the State Board for Technical Education and the State Board for Community Colleges wanted, expected, and intended the Special Training Division to be a part of the department and system.

Impact on Citizens

The JLARC staff report stated that "...the division has performed its training effectively from industry's viewpoint, although sufficient information is not available to assess its impact on citizens..."

We do know that from 1966 through 1974, 870 new companies located in Virginia and 78,400 new jobs were created. An additional 844 companies expanded within the Commonwealth during this period creating an additional 53,400 new jobs.

Unemployment has been low. There has been an increase in earnings. There has been increased revenue to the State and localities. There has been a reduction in welfare rolls, and all this has accrued to the general well being of the Commonwealth.

Many agencies and industries have contributed to this growth in Virginia, and the Special Training Division played a most important role.

Special Training Operation Procedures

The division operational procedures are guidelines; they were designed to be flexible. Industrial development is very competitive, and those working to attract new industry to the state must have flexibility and authority to act quickly.

The guidelines specifying the minimum number of trainees required to establish a program was reduced from 20 to 18 in order to compete with the policies and practices of other states. Some of our competitors have reduced their trainee requirement to 8.

State funds are used for leasing training facilities. Only when necessary, where community college and industrial facilities are not available, and using the flexibility built into the guidelines, state funds were used for leasing or renting training facilities in only 30 instances out of 240 programs.

The report states that the division, as a matter of procedure, pays for up to half of the production materials used during a training program. In only 29 cases was reimbursement made for half of the production materials used in the training program, and only then when the material was classified as scrap and could not go into the finished product. Because this procedure was very difficult to administer, the division no longer pays for materials used in training.

The division does not regularly notify political subdivisions about

training programs. This responsibility has been assumed by others--state, local, and area development agencies.

The division has trained instructors and first-line supervisors as part of its responsibility. Selected personnel from a company who are directly involved in the training of Virginia citizens for new operator job opportunities are trained as instructors.

Data Communication

The JLARC staff speaks to discrepancies in data about persons trained, hired, and employed.

The first set of figures were given as an approximation during conversation at the initial preliminary meeting. They were not understood to be final data.

The first written request for data was made September 30, 1974, and the discrepancies between the first verbal approximation and this request were pinpointed as trainees who had started programs but had not completed them.

A further request dated November 12, 1974 asked for detailed record data and after a check of the individual, program-by-program records, a third set of figures was supplied.

When asking for data, it must be understood that the number of program trainees change daily. Reference points need to be set, if data is to be comparable. Unfortunately, this was not done by the JLARC staff, which added to the confusion.

Industry Cost

From a list showing active Special Training programs, a JLARC staff member selected 34 programs and surveyed the industries by telephone.

Our own verification after this telephone survey affirms that data on 26 of the 34 programs surveyed were in accordance with the original information given to the JLARC staff.

Data for the remaining eight programs contains discrepancies as a result of differences in record counting and recording by both industry and Special Training.

Following the telephone survey, our contacts with the industries indicated that neither the information sought nor its importance was understood by many of those contacted. In addition, some of the individuals contacted were not the persons responsible for the programs within their industry.

The discrepancies reported by the JLARC staff in the records between their survey and the Special Training Division's records can be attributed to a number of problems including, but not limited to the following:

1. There apparently had been some confusion about the kinds of questions asked and what they meant. A standard method might have been helpful in collecting accurate data and eliminating misunderstandings.

2. Contacting of the wrong individuals by the JLARC staff about the number of trainees and related information resulted in inaccurate data.

The following two case studies were discussed by the JLARC staff report as examples of data discrepancies. Clarification is set forth.

General Electric Company, Portsmouth

The justification for conducting training for the General Electric television plant in Portsmouth has been challenged in the JLARC staff report. They state that while nearly 12,000 assemblers have been trained, only 3000 were employed. The facts show that 3,700 were on their payroll at this time. To a casual observer, those data would imply that almost four times as many people were trained as were needed.

An understanding of these data is possible by examining the unique pattern of growth at this facility. After opening its doors in February of 1966, G. E. had employed 2,000 people by the year's end. Due to a change in product lines, 900 were laid off during the months of January, February and April of 1967. Our training program was discontinued following the initial layoff in January; it was not resumed until August when G. E. had exhausted its recall list after rehiring 700 of the 900 who were affected by the layoff. The company continued to expand its operation by adding new product lines from its facility in Syracuse, New York.

These new product lines were developed and introduced between 1967 and 1970. New product lines also were added in 1970, 1971, and 1972. The addition of new products and phasing out of old ones resulted in other periods of cutbacks. In each case, the training program was stopped and resumed only when G. E. had rehired all those who could be located. Naturally, all could not be rehired, most of them having obtained jobs elsewhere. However, the job openings still remained, and Special Training provided the necessary training.

By October of 1973, G. E. employed 5,100 persons and was forced to lay off 400 persons as a result of the energy crisis. The program was discontinued at that time. Only 250 former employees were available for rehiring when G. E. resumed its expansion in January, 1974, and the program was resumed. By July of 1974, G. E. employed 5,600 persons. Following an additional layoff in September, the program was discontinued.

Of the 10,611 assemblers hired for this facility, 1,200 were upgraded to higher positions creating a like number of operator vacancies. Replacement training for these positions is not interpreted by the system as attrition. Another 1,100 students were hired for temporary summer employment during the growth periods of the company. The summer employment was an attempt by the G. E. Company to comply with the request of the Governor to provide summer employment for underprivileged and minority students.

It is important to note that all persons trained were obtained through the Virginia Employment Commission; this would indicate that they were either unemployed or underemployed at the time of training. Additionally, industry records show that over eighty percent of our training was conducted during periods of rapid growth. The number of persons leaving during these periods increases making it impossible to determine whether a graduate of our program is used to fill a newly created position or to replace someone that may have left during this period.

The reported program cost of $172,185, from which the JLARC staff calculated a cost of $14.56 per trainee, included an initial investment for the original G. E. training facility (that facility was also shared with a second client). The cost also included instructors assigned to the G. E. facility who during that period were, from time to time, utilized in a variety of other programs throughout the state.

The JLARC staff noted a program cost of $1.53 per trainee--the division has never used this figure in any of its documents. During the course of a conversation with a member of the JLARC staff, the $1.53 per trainee was given as an approximate cost of operator training (instructors salary excluded) as of February, 1974.

As a result of the cyclical and economic nature of this industry, it has, in effect, been a series of individual programs, each with its own objectives. General Electric has not been unique in receiving this type of service, nor has G. E. received any favored or special treatment. Indeed, other industries have availed themselves of this service.

The G. E. Company in Virginia employed over 18,000 Virginians. Second only to Newport News Shipping and Dry Dock Company, the plant in Portsmouth discussed above originally made a capital investment of $5,800,000 with a current capital investment of $23,600,000.

The 1974 gross annual payroll for that plant exceeded $38,500,000. This facility paid over $290,000 in business taxes in 1974 alone and the employees over $1,000,000 in State income taxes. This has been indeed a significant contribution to the Commonwealth, aided by Special Training.

Brown Boveri

In this case study, JLARC staff has acknowledged that a total of 18 persons have been trained as verified by our figures and confirmed by the company. The JLARC staff report indicates that only 8 were trained and hired.

Cost Benefit Data

Working with the state economist and others, our cost/benefit data was based on the number of people trained and the dollars returned to the State in the form of taxes by the cumulative number of people trained and retrained since 1966 by the Special Training Division. It is a simple means of showing that Special Training does result in a rather rapid monetary return to the Commonwealth in addition to the benefits often credited to individuals and society as the result of additional education (such as the attraction of industry). Regardless of the exact numbers, our cost/benefit study does reasonably show that Special Training is a rapid and inexpensive means of providing skills for specific jobs.

Most would agree that increased job skills from Special Training would result in higher earnings, and thus higher taxes which help to offset the training cost. The costs occur only once, while the benefits accrue to the State for a lifetime. The important thing is that Virginians have been trained in skills that will enable them to be employed in better jobs from which benefits to both the individual and the State occur.

Special Training is for individuals--people--and while the State benefits and industry benefits, the key to the program is the training of individual Virginians.

Supervisory Training Program

Since 1966, a total of 77 supervisory and upgrading programs have been conducted for 2,100 Virginians under the Auxiliary Committee Concept, which was approved by the State Board for Community Colleges in 1967. These programs were established to run on a fee basis. On December 3, 1974 the Chancellor discontinued the Auxiliary Committee Concept; he issued a memorandum to the presidents which specified all supervisory programs involving Special Training personnel that were requested by industry would be coordinated through the Office of the Director of Continuing Education for each respective college.

One such program, the Kepner-Tregoe problem-solving seminar is being presented in conjunction with the continuing education divisions of the individual colleges. The first of several to be conducted for an industrial client has been completed through the Office of Continuing Education at Tidewater Community College.

An additional seminar will begin on the campus of John Tyler Community College April 28, 1975. A seminar is also planned for New River Community College the latter part of May, 1975.

In addition, 13 VCCS administrators have completed the program. It is expected that the total investment made by the Special Training Division for this program should be returned by the fourth quarter of 1975 and thereafter the program will be more than self-sustaining.

By preparing a Special Training instructor to present this seminar, it can be made readily available to the entire system and eliminate the need to train multiple instructors at several colleges.

Relationship with Community Colleges

The relationship between Special Training and the community colleges has improved as more programs are operated at the colleges. Since 1966 a total of 36 programs were actually conducted on the community college campuses, and an additional 19 programs have utilized instructors from the colleges to conduct programs for business, industry, and the professions. The 23 presidents verify that there always has been a close working relationship with Special Training, particularly where it refers to industries and businesses either newly locating or expanding their facilities within their community college region.

Relationship with Division of Industrial Development

Special Training is not oriented just to attracting new industry. It also assists with the expansion of existing industry, business, and professions.

In addition to serving the industrial needs since the inception of the Special Training Division, 3,022 people have been trained in a variety of retail and clerical skills for eight companies. A total of 375 people have been trained in medical services, including two hospitals, a nursing home, one childcare center, and

a nursing refresher program.

We would oppose transfer of Special Training to the Division of Industrial Development. The Division of Special Training is concerned with education and training whereas Industrial Development's function is attracting new industry.

In most other states providing this service the training is not a part of Industrial Development.

Guideline Review

Recognizing the need for change and for evaluation, the Chancellor sometime ago directed that the Special Training guidelines be reviewed and updated to meet new demands. This charge included a record-keeping system for the MIS which would be more sensitive to the needs of better and more efficient accounting techniques. The State Board will review the recommendations at either its summer or fall meeting.

A P P E N D I C E S

APPENDIX A

MIS CALENDAR OF EVENTS

	ITEM	DATE
1.	Board approval for Automated Data Processing System to provide for data to aid in policy making and managing the System	1967
2.	Small computer installed	1968
3.	The Virginia Community College System Master Plan for Data Processing approved by State Board (Funds not available for implementaion)	February 1970
4.	Proposal to Develop a Plan of Action for MIS	March 1971
5.	Plan of Action for MIS	October 1971
6.	Proposal for the Development of MIS	November 1971
7.	Report on Preliminary Findings by McManis Associates	April 1972
8.	Began Development of MIS Computer Hardware Specifications	October 1972
9.	Discussed MIS Development with ADP	October 1972
10.	MIS (McManis) Report Completed	November 1972
11.	Review of Final McManis MIS Study by Department	January 1973
12.	State Board for Community Colleges Approved and Adopted the MIS (McManis) Report and Authorized the Time-Phased Implementation of MIS for the VCCS	January 1973
*13.	Meeting with Division of ADP to Request Approval for MIS Computer	February 1973
14.	VCCS ADP Plan (for MIS Development and Implementation)	June 1973
15.	MIS Computer Hardware Selection	July 1973
16.	MIS Positions Requested	August 1973
17.	Final Request to Lease MIS Computer	August 1973

	ITEM	DATE
18.	Approval Received to Install MIS Computer	September 1973
**19.	MIS Computer Installed	October 1973
20.	MIS Subsystem Software Development Started	February 1974
21.	Final Resolution of all Requested MIS Positions	June 1974
22.	Revised VCCS ADP Plan (for MIS Development and Implementation)	July 1974
23.	Requested Revolving Fund	July 1974
24.	Student Information Package (SIP) Implemented at 18th Community College	December 1974
25.	Requested Approval to Extend Existing Contracts for Outside MIS Software Development Support (Necessary to continue MIS Development) for the following subsystems:	
	1. Accounting	
	***2. Admissions	
	***3. Registration	
	***4. Position	
	***5. Classified	
	***6. Faculty	
	***7. Payroll	January 1975
26.	Implementation of MIS Accounting Subsystem Begun at John Tyler Community College	March 1975

* Initial Request

** Final Action

*** Not Approved

APPENDIX B

FACULTY LOAD DATA

Attached are excerpts from our computer printout showing faculty loads during the Fall Quarter of 1974. We believe these few illustrations clarify much of the concern that related to small class/section sizes.

We have numerous examples not shown on the attached excerpt where faculty members, through the use of non-traditional instructional techniques, are teaching three sections of chemistry or three sections of secretarial science simultaneously in the same classroom.

The attached excerpts showing Instructor G and Instructor B, between them accounting for 39 sections with fewer than 10 students--18 of these sections having only 1 student. Both of these gentlemen are directors of co-op education programs and the students shown as their loads are actually off-campus working in industry as a part of their educational program. Since these students must register and pay tuition, the record system requires that they be reported in this way.

Instructor A, a professor in business administration, generated 317 student credit hours during the Fall Quarter of 1974--well in excess of the 225 student credit hours the 15 to 1 student-to-faculty ratio budgeting guide would require. However, in generating this load, Instructor A had 5 sections with fewer than 15 students, 3 of them with less than 10 students. Four of the five sections with fewer than 15 students were coordinated interships, seminar and projects and supervised study--all generally falling into the category of non-traditional instructional techniques.

Instructor C teaches music. His productivity during the Fall Quarter of 1974 was 290 student credit hours or nearly 97 percent of his design productivity. In obtaining this productivity level, however, the instructor has 5 sections with 15 or fewer students. You will note that in music 147 and 247 that the number of students per section is consistently 6. Music 147 and 247 are classroom keyboard courses and the number of students who can be accommodated is limited by the number of keyboard stations available.

You will note that Instructor D and Instructor E, both teaching in the secretarial area, each generate significantly more than the 225 student credit hours required by the Budget Guidelines; however, between them they have 6 sections with 15 or fewer students. Thus, nearly 55 percent of the sections taught by these two instructors have 15 or fewer students while their productivity exceeds the design level by 16 percent.

Instructor F teaches auto mechanics at the John H. Daniel Campus of Southside Virginia Community College. Although Instructor F teaches 6 different sections of students and is generating student credit hours at 96 percent of design capacity, not one of his sections exceeds 15 students. To ask this instructor to handle more than the number of students he currently has in this highly skills oriented, sometimes potentially dangerous field of study, would be impractical. It should be understood that to carry this load and produce at this productivity level, Instructor F must spend approximately 35 hours per week in the classroom and laboratory in direct contact with the students. In addition to this number of contact hours, Instructor F has 15 different one-hour lectures per week to prepare and must handle the normal paperwork and evaluations commensurate with his student

load.

One should also be aware that in addition to Instructor F's normal "paid" activities, Instructor F keeps the auto shop open most Saturdays to assist the local farm population with their automotive related problems.

INSTRUCTOR A

ACCT	111	01	A	04	31
ACCT	211	01	A	03	12
BUAD	100	02	A	03	30
BUAD	190	03	A	03	7
BUAD	198	02	A	02	2
BUAD	198	03	A	03	13
BUAD	199	03	A	03	1
TOTS	7			21	96

INSTRUCTOR B

AERO	297	01	A	01	1
AERO	297	03	A	03	2
AERO	297	05	A	05	2
ARCH	297	01	A	01	1
ARCH	297	05	A	05	1
BUAD	297	04	A	04	1
BUAD	297	05	A	05	2
DAPR	297	04	A	04	1
DAPR	297	05	A	05	3
HRIM	297	03	A	03	4
LWNF	297	03	A	03	3
LWNF	297	04	A	04	1
MKTG	297	02	A	02	1
MKTG	297	03	A	03	2
MKTG	297	04	A	04	1
MKTG	297	05	A	05	1
RCPK	297	03	A	03	1
RCPK	297	04	A	04	1
RCPK	297	05	A	05	1
SECR	297	03	A	03	2
SECR	297	04	A	04	2
SECR	297	05	A	05	2
TOTS	22			81	36

INSTRUCTOR C

MUSC	121	01		03	20
MUSC	121	02	B	03	21
MUSC	141	01	B	02	15
MUSC	141	03	B	02	13
MUSC	147	02	B	02	6
MUSC	221	01	B	03	27
MUSC	247	01	B	01	6
MUSC	247	02	B	02	6
TOTS	8			18	114

INSTRUCTOR D

MATH	151	01	A	03	29
SECR	112	01	A	03	13
SECR	121	01	A	04	22
SECR	122	01	A	04	7
SECR	136	01	A	03	9
TOTS	5			17	80

INSTRUCTOR E

SECR	111	01	A	03	14
SECR	111	02	A	03	19
SECR	216	01	A	03	18
SECR	216	02	A	03	1
SECR	221	01	A	03	17
SECR	241	01	A	03	15
TOTS	6			18	84

INSTRUCTOR F

AUTO	111	01	B	04	11
AUTO	136	01	B	03	11
AUTO	154	01	B	04	13
AUTO	199	02	B	02	15
AUTO	242	01	B	04	5
AUTO	254	01	B	04	9
TOTS	6			21	64

INSTRUCTOR G

ACCT	297	03	B	03	6
ACCT	297	05	B	05	2
ARTS	297	03	B	03	1
AUTO	297	05	B	05	1
BUAD	297	03	B	03	3
CIVL	297	03	B	03	2
DAPR	297	03	B	03	2
EDUC	297	03	B	03	10
EDUC	297	05	B	05	2
ENGR	297	03	B	03	1
LWNF	297	03	B	03	6
LWNF	297	05	B	05	2
MDLB	297	03	B	03	1
MKTG	297	03	B	03	3
MKTG	297	04	B	04	1
PSYC	297	03	B	03	1
SECR	297	03	B	03	5
TOTS	17			60	49

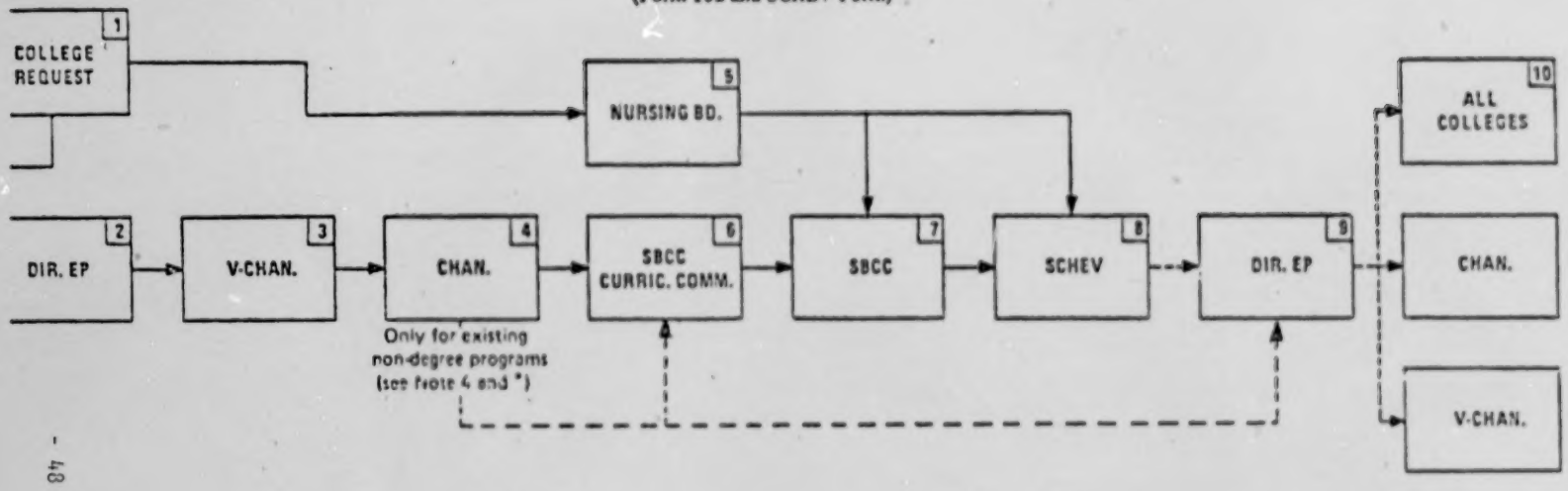
APPENDIX C

CURRICULUM DEVELOPMENT PROCESS

FLOW CHARTS

LINE FOR APPROVAL AND ACTION
----- LINE FOR COPIES AND INFORMATION

PROGRAM APPROVAL*
(Form 102 and SCHEV Form)



HISTORICAL FILE

a. The director of the Educational Programs Division will keep this file.
b. Each college will maintain a file on its requests and their disposition.

TIME

All requests must be submitted to VDCC by October 15th of year preceding that in which program is to be offered. Requests must be forwarded to SCHEV by December 1st. SCHEV approval can be expected within 90 days.

NOTES (Relate to numbers above.)

1. College submits on proper form and with approval of the college board, president and Occupational Program Advisory Committee if Occupational Program is included.
2. Review for need, content, student demand, resources, employment opportunities and community support.
3. General review and approval.
4. General review and placement on committee agenda. Final approval for non-degree programs currently existing in the system (see *).
5. Review and approval – only for nursing programs.
6. General review and approval.
7. Approval.
8. General review and final approval. Returned to the Chancellor and then to the Director of Educational Programs.
9. Filing and distribution of information.
10. Included in reports to all colleges of academic actions.

* Procedure for all new programs and curricula. Non-degree programs that are new to the system need only complete Step 7. For non-degree programs already existing in the system, the SBCC has authorized the Chancellor to approve for other colleges keeping the curriculum committee advised. Non-degree programs must be approved 90 days prior to scheduled offering. Degree programs require advanced approval of Letters of Intent by SCHEV (see chart on Letters of Intent).

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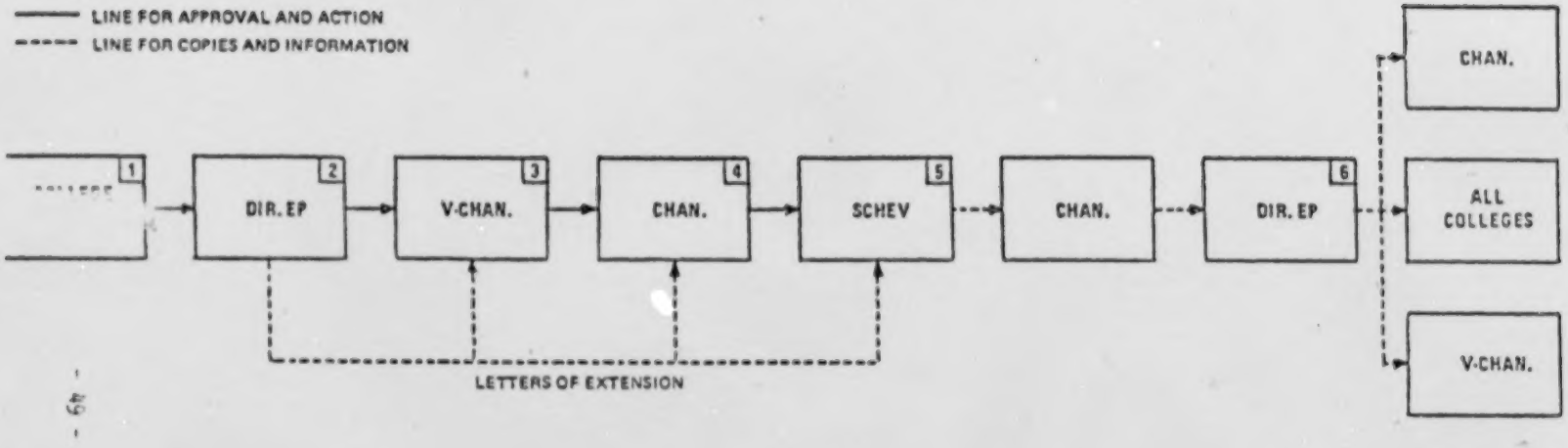
LETTERS OF INTENT* AND EXTENSIONS**



HISTORICAL FILE

a. Kept by Director of Educational Programs.
b. Each college keeps file on its requests and their disposition.

TIME

Letters of intent normally are submitted by May 1st.

NOTES (Relate to numbers above.)

1. College submits with approval of college board and president.
2. Review for need, appropriations, resources, consistency with state plan.
3. General review and approval.
4. General review and approval — transmitted to SCHEV.
5. General review and approval.
6. Filing and transmittal.

* Submitted each year, 18 months in advance of program implementation and one year before program approval application. Approval of SCHEV frees college to proceed with program approval process (Form 102 plus SCHEV form).

** Requests to extend time of planning or implementation of a program are consolidated (Step 2) by the director of Educational Programs and sent to SCHEV with copies to the chancellor and vice chancellor. They do not require formal action as do the letters of intent.

APPENDIX D

DISCONTINUED AND DISAPPROVED PROGRAMS

Permanent Discontinuances of Programs

	Year Discontinued
Blue Ridge Community College	
Chemical Technology (AAS)	1968
Data Processing (Unit Records) (C)	1970
Cosmetology (C)	1971
Engineering (AS)	1973
Central Virginia Community College	
Electronics (D)	1970
Danville Community College	
Cosmetology (C)	1970
Electromechanical (AAS)	1974
Textiles (AAS)	1975
Accounting (C)	1975
Machine Operations (C)	1975
John Tyler Community College	
Computer Operator (C)	1972
Lord Fairfax Community College	
Auto Analysis and Repair (D)	1974
Law Enforcement (C)	1974
Law Enforcement Administration (C)	1974
Northern Virginia Community College	
Computer Operations (C)	1970
Key Punch (C)	1970
Unit Record (C)	1970
Radio-Television Repair (C)	1970
Civil Technology (AAS)	1972
Mechanical Technology (AAS)	1972
Piedmont Community College	
Community and Social Service (D)	1975
Electricity (C)	1975
Thomas Nelson Community College	
Machine Shop (C)	1971
Sheetmetal (C)	1971
Unit Record (C)	1971
Welding (C)	1971
Tidewater Community College	
Diesel (C)	1971

Virginia Highlands Community College	
Auto Body Repair (C)	1971
Cosmetology (C)	1971
Masonry (C)	1971
Crafts Production (AAS)	1972
Virginia Western Community College	
Drafting and Design (AAS)	1967

SUMMARY OF PROGRAMS NOT ROUTINELY APPROVED
ACADEMIC YEARS 1971-72, 1972-73, 1973-74

1971-72

Central Virginia Community College

Recreation and Parks Leadership (AAS) Denied by SCHEV as 1973 Letter of Intent
Hotel-Restaurant-Institutional Management (AAS) Withdrawn by Department as 1973 Letter of Intent

Eastern Shore Community College

Environmental Technology (AAS) Denied by SCHEV as 1972 Proposal
Recreation and Parks (AAS) Denied by SCHEV as 1972 Proposal
Marine Science (AAS) Deferred by SCHEV as 1972 Proposal

Germanna Community College

Educational Technology (AAS) Denied by SCHEV as 1973 Letter of Intent
Mental Health (AAS) Withdrawn by Department as 1972 Proposal

J. Sargeant Reynolds Community College

Legal Technology (AAS) Withdrawn by Department as 1973 Letter of Intent

John Tyler Community College

Legal Technology (AAS) Withdrawn by Department as 1972 Proposal

Lord Fairfax Community College

Recreation and Parks (AAS) Denied by SCHEV as 1973 Letter of Intent

Mountain Empire Community College

Recreation and Parks (AAS) Denied by SCHEV as 1973 Letter of Intent

New River Community College

Guidance Personnel Associate (AAS) Denied by SCHEV as 1973 Letter of Intent
Nursing (AAS) Withdrawn by Department as 1973 Letter of Intent

Northern Virginia Community College

Science Technology (AAS) Denied by SCHEV as 1972 Proposal - Subsequently appealed and approved by SCHEV
Guidance Personnel Associate (AAS) Denied by SCHEV as 1973 Letter of Intent
Pre-Teacher (Industrial Arts Option) (AS) Denied by SCHEV as 1973 Letter of Intent
Community and Social Service (AAS) Withdrawn by Department as 1973 Letter of Intent
Legal Technology (AAS) Withdrawn by Department as 1973 Letter of Intent
Public Service (AAS) Withdrawn by Department as 1973 Letter of Intent

Patrick Henry Community College

Data Processing (AAS) Deferred by SCHEV as 1973 Letter of Intent

Piedmont Virginia Community College

Community and Social Service (AAS) Withdrawn by Department as 1972 Proposal
Educational Technology (AAS) Denied by SCHEV as 1973 Letter of Intent
Media Advertising Arts (AAS) Deferred by SCHEV as 1973 Letter of Intent
Dental Laboratory (AAS) Withdrawn by Department as 1973 Letter of Intent
Hotel-Restaurant-Institutional Management (AAS) Withdrawn by Department as 1973 Letter of Intent
Legal Technology (AAS) Withdrawn by Department as 1973 Letter of Intent
Public Service Technology (AAS) Withdrawn by Department as 1973 Letter of Intent

Rappahannock Community College

Data Processing (AAS) Withdrawn by Department as 1972 Proposal- changed to Letter of Intent for 1973- then denied

Southside Virginia Community College

Public Service (Local Government Planning Option) (AAS) Withdrawn by Department as 1973 Letter of Intent

Southwest Virginia Community College

Guidance Personnel Associate (AAS) Denied by SCHEV as 1973 Letter of Intent
Data Processing (AAS) Deferred by SCHEV as 1973 Letter of Intent
Community and Social Service (AAS) Withdrawn by Department as 1973 Letter of Intent

Thomas Nelson Community College

Guidance Personnel Associate (AAS) Denied by SCHEV as 1973 Letter of Intent
Hotel-Restaurant-Institutional Management (AAS) Withdrawn by Department as 1973 Letter of Intent
Legal Technology (AAS) Withdrawn by Department as 1973 Letter of Intent
Public Service Technology (Public Administration Option) (AAS) Withdrawn by Department as 1973 Letter of Intent

Tidewater Community College

Legal Technology (AAS) Withdrawn by Department as 1972 Proposal
Educational Technology (AAS) Denied by SCHEV as 1973 Letter of Intent
Marine Science (AAS) Deferred by SCHEV as 1973 Letter of Intent
Civil (AAS) Withdrawn by Department as 1973 Letter of Intent
Public Service Technology (AAS) Withdrawn by Department as 1973 Letter of Intent

Virginia Highlands Community College

Educational Technology (Early Childhood Option) (AAS) Denied by SCHEV as 1973 Letter of Intent
Data Processing (AAS) Deferred by SCHEV as 1973 Letter of Intent
Public Service Technology (AAS) Withdrawn by Department as 1973 Letter of Intent

Virginia Western Community College

Legal Technology (AAS) Withdrawn by Department as 1972 Proposal
Chemical Technology (AAS) Denied by SCHEV as 1973 Letter of Intent
Recreation and Parks (AAS) Denied by SCHEV as 1973 Letter of Intent
Medical Laboratory (AAS) Deferred by SCHEV as 1973 Letter of Intent
Community and Social Service Technology (AAS) Withdrawn by Department as 1973 Letter of Intent

Wytheville Community College

Medical Laboratory (AAS) Deferred by SCHEV as 1973 Letter of Intent-subsequently approved

Eastern Shore Community College

Environmental Technology (AAS) Denied by Department as 1974 Letter of Intent, recommending further study
Recreation and Parks (AAS) Denied by Department as 1974 Letter of Intent, recommending further study
Marine Science (AAS) Withdrawn by Department as 1974 Letter of Intent, requiring further study

J. Sargeant Reynolds Community College

Medical Laboratory (AAS) Deferred by SCHEV as 1973 Proposal (later approved)
Medical Records (AAS) Deferred by SCHEV as 1973 Proposal (later approved)
Nursing (AAS) Deferred by SCHEV as 1973 Proposal (later approved)
Radiologic (AAS) Deferred by SCHEV as 1973 Proposal(still intended as Letter of Intent)
Dental Hygiene (AAS) Deferred by SCHEV as 1974 Letter of Intent, requiring further study

John Tyler Community College

Climate Control Technology (AAS) Denied by Department as 1974 Letter of Intent, recommending further study
Environmental Technology (AAS) Denied by Department as 1974 Letter of Intent, suggesting cooperative study with JSRCC
Mental Health (AAS) Denied by Department as 1974 Letter of Intent, pending further study and evaluation of existing programs
Physical Therapy (AAS) Denied by Department as 1974 Letter of Intent, requesting further study under regional concept with JSRCC
Educational Technology (AAS) Withdrawn by Department as 1974 Letter of Intent
Fire Science (AAS) Withdrawn by Department as 1974 Letter of Intent, suggesting development under cooperative concept with JSRCC
Medical Laboratory (AAS) Withdrawn by Department as 1974 Letter of Intent, suggesting development under cooperative concept with JSRCC

Lord Fairfax Community College

Wildlife Technology (AAS) Withdrawn by Department as 1974 Letter of Intent, requiring further study

New River Community College

Community and Social Service (AAS) Changed from 1973 Proposal to 1974 Letter of Intent (then withdrawn by Department for further study)

Northern Virginia Community College

Health Care Facilities Management (AAS) Withdrawn by Department as 1974 Letter of Intent, requiring further study

Human Services Technology (AAS) Withdrawn by Department as 1974 Letter of Intent, requiring further study

Legal Technology (AAS) Withdrawn by Department as 1974 Letter of Intent, requiring further study

Automotive Parts Management (AAS) Denied by Department as 1974 Letter of Intent, recommending as an option a certificate program

Patrick Henry Community College

Commercial Art (AAS) Denied by Department as 1974 Letter of Intent, recommending further study

Piedmont Virginia Community College

Dental Laboratory (AAS) Denied by Department as 1974 Letter of Intent, recommending occupational needs study

Prosthetics-Orthotics Technology (AAS) Denied by Department as 1974 Letter of Intent, suggesting further study

Community and Social Services (AAS) Changed from 1973 Proposal to 1974 Letter of Intent, then withdrawn by Department, requesting further study

Rappahannock Community College

Nursing (AAS) Denied by Department as 1974 Letter of Intent, requiring further study and justification

Tidewater Community College

Mental Health (AAS) Denied by Department as 1974 Letter of Intent, pending analysis of existing programs

Virginia Highlands Community College

Human Services (AAS) Withdrawn by Department as 1974 Letter of Intent

Virginia Western Community College

Dental Hygiene (AAS) Deferred by SCHEV as 1973 Proposal (later approved)

Community and Social Services (AAS) Withdrawn by Department as 1974 Letter of Intent, requiring further study

Virginia Western Community College -(cont'd.)

Optometric Technology (AAS)	Withdrawn by Department as 1974 Letter of Intent, requiring further study
Media Advertising Arts (AAS)	Denied by Department as 1974 Letter of Intent, requiring further study
Child Development Associate (AAS)	Denied by Department as 1974 Letter of Intent, suggesting consideration as an option under another program

J. Sargeant Reynolds Community College

Radiologic (AAS) SCHEV extended Letter of Intent from 1974 to 1975
Dental Hygiene (AAS) SCHEV extended Letter of Intent from 1974 to 1975
Construction Management (AAS) SCHEV approved withdrawal of Letter of Intent

John Tyler Community College

Fire Science (AAS) Denied by Department as a 1975 Letter of Intent, requesting cooperative approach with JSRCC

Mountain Empire Community College

Nursing (AAS) Denied by Department as a 1975 Letter of Intent, suggesting a cooperative relationship with Virginia Highlands-Southwest Virginia

Patrick Henry Community College

Drafting and Design (AAS) SCHEV approved withdrawal of Letter of Intent

Thomas Nelson Community College

Construction Management (AAS) SCHEV approved withdrawal of Letter of Intent

Tidewater Community College

Automotive (AAS) Deferred by Department as a 1975 Letter of Intent
Machine (AAS) Deferred by Department as a 1975 Letter of Intent

Wytheville Community College

Hotel-Restaurant-Institutional Management (AAS) Denied by Department as 1975 Letter of Intent

APPENDIX E

GUIDELINES FOR PROMOTING ARTICULATION BETWEEN TWO-YEAR COLLEGES AND FOUR-YEAR COLLEGES AND UNIVERSITIES IN VIRGINIA

December 11, 1969
February 25, 1971

POLICIES AND PROCEDURES OF THE STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA

Policies and Procedures Concerning

Guidelines for Promoting Articulation Between Two-Year Colleges and Four-Year Colleges and Universities in Virginia

Consistent with its responsibility to develop and maintain a coordinated system of higher education in Virginia, the State Council of Higher Education at its April 3, 1967 meeting approved guidelines designed to promote the smooth transfer of students completing appropriate college transfer programs in two-year colleges to the four-year colleges and universities in Virginia. The Articulation Advisory Committee has conducted continuous follow-up since 1967 and the State Council has updated these guidelines at its December 11, 1969 meeting and again at its June 8, 1972 meeting. The updated set of Guidelines follows:

I. In order to assist students in evaluating their general progress and the appropriateness of their educational objectives, four-year institutions and two-year colleges should work jointly and establish systematic procedures to provide counselors and advisors with current and continuing information about comparable courses, curriculum changes, requirements for admission, student characteristics, student services, and performance of transfers.

II. Two-year college students should be encouraged to choose as early as possible the four-year institution and program into which they expect to transfer in order to plan programs which may include all lower division requirements of the four-year institution. Transfer students should be given the option of satisfying graduation requirements which were in effect at four-year institutions at the time they enrolled as freshmen, subject to conditions or qualifications which apply to native students.

III. Performance in the college transfer program offered by two-year college is the best single predictor of success in four-year institutions and, therefore, should count heavily in the evaluation of transfer applicants.

IV. Admissions standards of four-year institutions should be stated clearly to assist two-year college students in planning for transfer.

V. Transfer applicants from institutions which have institutional approval from the State Council of Higher Education should be evaluated on the same basis as applicants from regionally accredited institutions.

VI. The evaluation of transfer courses by four-year institutions should serve to inform the individual student at the time of admission how far he has advanced toward his degree objective and what residence and subject requirements must still be met.

VII. The satisfactory completion of an appropriate two-year associate degree transfer program should normally assure upper division standing at the time of transfer although this does not unconditionally guarantee transfer of all credits.

VIII. Two-year college students are encouraged to complete their Associate in Arts or Associate in Sciences Degree before transferring to a senior college except in specialized curricula where it would be to the students' advantage to transfer earlier.

IX. The Two-Year/Four-Year Articulation Advisory Committee composed of representatives from public and private two-year and four-year institutions should meet at least semi-annually to consider appropriate problems, suggest needed studies, and recommend to the State Council of Higher Education additional guidelines for effective articulation.

June 8, 1972

JLARC COMMENT ON VCCS ANALYSIS

It is the policy of JLARC to provide State agencies an opportunity to respond to program evaluations with the assurance that their response will become a part of the final report.

A preliminary draft of this evaluation was provided the Council of Higher Education, Division of the Budget and the Department of Community Colleges on February 19, 1975. Written replies were received from each agency and have been included as attachments to this report. It should be pointed out that they were not received until after the evaluation was in final form and released by the commission on March 17, 1975.

The Department of Community Colleges responded publicly to the JLARC report on April 16, 1975. The lengthy response concurs with many of the JLARC findings and indicates their intention to use the evaluation to improve the system in several areas. At the same time, the response takes issue with several of the findings in the report and raises several questions of procedure, methodology or concept. The following section contains JLARC comments limited to those specific areas which require clarification or additional comment.

Compliance with Legislative Intent

JLARC reported: (pp. 2-5, 20-21, 113-124)

- The State Board for Community Colleges is responsible for planning, administering, and controlling the System and maintaining standards appropriate to the purposes various programs are designed to serve.
- The VCCS lacks an operative master plan.
- VCCS management information is inadequate to monitor and assess institutional performance necessary for effective administration of the system.
- Administrative procedures have not controlled proliferation of costly programs.
- Open admission to the colleges is consistent with legislative intent.
- Open admission to instructional programs is not consistent with the legislative requirement to maintain appropriate program standards.

VCCS response: (pp. 4-6)

- JLARC has not understood the community college philosophy and purpose.
- The VCCS role is to manage the system, not each of the institutions.
- The VCCS was established to extend educational opportunity and excellence must be interpreted in that light.
- There are extensive procedures for review of new programs.

JLARC comments:

- JLARC conclusions regarding legislative intent were based on a thorough analysis of legislative reports, the community college law, newspaper accounts of the 1966 General Assembly session, and interviews with several individuals concerned with development of the system.

- JLARC analysis in each area was consistently based on measurement of defined VCCS and student objectives such as community outreach, student completion rates, job relatedness and transferability to four year institutions.

- At its inception the system was established and centrally controlled in accordance with a master plan. Lack of a current long range plan can only lead to 23 autonomous institutions, tailored to local self interest without regard to system policies, priorities, and needs.

- System management must be based on adequate management information in relevant areas for each institution.

- The mandate to expand educational opportunity while maintaining quality programs can be met by a system of accessible colleges offering a wide variety of programs (including remedial programs for those not meeting basic requirements) rather than by admitting everyone to any program simply on the basis of desire.

- State Board policies concerning admission pre-requisites to programs, procedures for program approval, and faculty workload guidelines are generally consistent with legislative intent, but adequate control has not been maintained by the department to insure compliance.

Application of Excess Funds, 1970-1974

JLARC reported: (pp. 125-128)

- VCCS received about $9.1M more in general fund appropriations due to inflated enrollment forecasts.

- $2,046,535 was returned to Treasury in 1973. $2,214,075 was returned in '74. The remainder ($5,142,010) was used as follows:

APPLICATION OF FUNDS

1970 - 72

Capital Improvements	$144,782
Patrick Henry Support	203,000
Eastern Shore Support	75,000
Regrade Costs Absorbed	300,000
Dept. Admin. Support	216,500
Budget Support - Various Colleges	188,838
TOTAL	$1,128,120

APPLICATION OF FUNDS (con't)

1972 - 74

Regrade Costs Absorbed	$866,000
MIS Development - (Dept. Admin)	610,045
Purchase of Computer (Northern Virginia)	546,000
Library Books	575,000
Capital Improvements - (Matching Federal Funds)	142,920
Budget Support - Eastern Shore	176,400
Budget Support - J. S. Reynolds	308,500
Budget Support - Rappahannock	108,230
Budget Support - Southside	164,500
Budget Support - Va. Western	155,500
Budget Support - New River	82,510
Budget Support - Thomas Nelson	97,500
Budget Support - Other Colleges	180,785
TOTAL	$4,013,890

Source: Provided JLARC March 10, 1975, by L. Daniel Crooks, Director Administration and Finance, Department of Community Colleges.

VCCS response: (p. 9)

- All funds appropriated were used properly either to meet essential operating expenses or returned to Treasury.

- $4,260,610 returned to Treasury on June 30, 1974. Balance of $5,142,010 used as follows:

Budget support - various colleges	$1,679,263
Absorbed cost of Regrade - unbudgeted raises to classified employees appropriated by General Assembly and authorized by the Governor	$1,166,000
MIS Development (Department Administration)	$ 610,045
Computer purchase for Northern Virginia Community College resulting in annual rental savings of $144,000	$ 546,000
Library Books - Purchases will partially offset a book deficit for the system of approximately $2,000,000	$ 575,000
Capital - Matching Federal Funds (for purchases of essential equipment)	$ 287,702

Repayment of Loans:

Patrick Henry Community College	$ 203,000
Eastern Shore Community College	$ 75,000
Total	$5,142,010

JLARC comments:

- The VCCS has acknowledged that $9,402,620 additional funds were received as a result of inflated enrollment forecasts. However, their explanation of how these funds were spent differs from that provided JLARC. On March 10, 1975 the Department's Director of Administration and Finance reported to JLARC that $216,500 was used by the Department of Community Colleges. The VCCS response on April 16, 1975 to the JLARC report does not mention this item but the amount identified as Budget Support - various colleges ($1,679,265) has been increased by $216,500 over the amount reported to JLARC on March 10, 1975.

- The point has been clearly established that due to inflated enrollment forecasts the VCCS received more than $9 million in general fund appropriations than would have been provided during 1970-74 based on actual enrollment. Although $4.2 million of this amount was returned to the Treasury on June 30, 1974, the Commonwealth lost the opportunity to utilize these funds during the biennium.

- JLARC did not conclude that funds were expended outside appropriate Executive authority. But it should be pointed out that at no time did the Legislature have the opportunity to pass judgment on the application of more than $5 million of these excess funds used by the VCCS.

Inflated Enrollment Projections

JLARC reported: (pp. 125-128)

- Enrollment projections have been inflated to the extent that the VCCS received about $1.1 million more in general funds than would have been appropriated if actual enrollments were used in 1970-72, and in 1972-74, the excess amounted to about $8 million.

VCCS response: (pp. 10-11)

- Acknowledge their projections have not been as accurate as they would like them, and will work with the council to improve.

- Deny inflated projections were intentional.

- Offer the following reasons for their failure to forecast more accurately:
  - lack of historical base--too young
  - rapid growth
  - uncertainty and postponement of start-up dates for a number of schools
  - end of military draft
- Claim their original projections have been revised downward on several occasions.

JLARC comments:

- Enrollment forecasts used for budget requests and legislative appropriations have not been reliable and consistently overstate the anticipated level of enrollment resulting in more than $9 million in excess appropriations during 1970-74.
- While enrollment projections for 1974-76 appear to be more realistic on a system wide basis, projections at some well established colleges were still wide of the mark for the Fall term 1974. For example, forecasts exceeded enrollment by 46% at Rappahannock, 35% at Germanna, and 24% at Lord Fairfax.

Course Costs

JLARC reported: (pp. 80-84)

- Cost is one of several criteria that should be considered in making the decision to offer or discontinue a course or subject.
- While a complete analysis of instructional costs is beyond the scope of the JLARC study, costs factors for several programs were presented as examples of how costs should be considered in the decision making process.
- JLARC's examination of selected course cost during one term (Fall, 1974) showed wide variations between schools.

VCCS response: (p. 22)

- Class size in a given subject varies from term to term.
- A faculty member may teach in areas outside the division in which they are funded, thereby not included in JLARC analysis.

JLARC comments:

- During the agency review process JLARC discussed the issue of overlapping or multi-disciplinary course instruction with department personnel. JLARC requested and received from the VCCS a complete listing of additional courses taught by the instructors in question. This included both additional on-campus instruction and off-campus duties. These figures were included in the JLARC report.

- JLARC recognized that data presented is no substitute for a complete analysis of all VCCS instructional cost. However, the data presented clearly establishes that program costs is an area that deserves VCCS management attention in order to provide quality education at the lowest cost to the taxpayer.

Small Classes

JLARC reported: (pp. 85-86)

- Class size is the principal controllable factor that influences high instructional costs.

- JLARC found a substantial number of classes with low enrollments.

- JLARC calculated the effect small classes have on instructional expenditures and concluded that the VCCS could have saved approximately $500,000 over the 1973-74 academic year by limiting classes with less than 15 students to no more than 45% of all classes.

VCCS response: (pp. 20-21)

- Classes and sections are not the same and JLARC confused the two when analyzing class enrollment data.

- 70% of the community college effort is in occupational-technical education with a 15:1 student-faculty ratio. Therefore, at least 35% of their classes will be under 15 students (the figure chosen to be the minimum enrollment).

JLARC comments:

- JLARC is fully aware of the difference between classes and sections.

- The primary data used by JLARC to determine the number of small classes was obtained from the VCCS report titled "Resident Classes Taught by Term", A-1 report. The instructions for preparing this report specifically require that sections taught as one class be clearly identified to the reader. The instructions read:

> *If several different sections are taught at the same time in the same room (as sometimes arranged in laboratory or studio*

subjects) by a single instructor who has no assistants being compensated for resident teaching, these sections should be listed consecutively (out of numerical order, if necessary) and bracketed to show that they should count as only one class in the instructor's schedule.

In light of the VCCS response, JLARC again reviewed the A-1 reports, manually searching for overlapping classes or sections that might have been reported by the VCCS. We reviewed the A-1 reports for eleven schools and found that the number of reporting errors was so small the percent of small classes did not change significantly. The following table displays the number and percent of small classes by school as reported by JLARC compared with the number and percent after adjustments have been made for VCCS reporting errors.

COMPARISON OF SMALL CLASS DATA

	JLARC REPORTED		ADJUSTED FOR VCCS REPORTING ERROR	
COLLEGE	NUMBER	PERCENT	NUMBER	PERCENT
Danville	116	34%	100	30%
Blue Ridge	78	35%	75	34%
Virginia Highlands	155	59%	152	58%
Eastern Shore	39	60%	36	55%
Virginia Western	142	28%	135	27%
Rappahannock	101	63%	97	61%
D. S. Lancaster	101	60%	99	59%
Wytheville	110	46%	101	44%
Central Virginia	102	30%	95	29%
Southwest Virginia	248	69%	238	67%
Germanna	101	58%	91	55%

- In summary, JLARC's finding that the VCCS conducts too many classes with low enrollment is sound.

- Economies can be achieved if the VCCS adopts reasonable class size standards and insures these standards are met.

Impact of Open Program Admissions

JLARC reported: (pp. 17-22)

- JLARC used two criteria to measure the impact of open program admissions--student ability in class and program completion rates.

- JLARC found:

  -Approximately 28% of full-time freshmen enrolled in associate degree programs in Fall 1972 returned in Fall 1973 as sophomores.

  - Approximately 30% of VCCS freshmen receive awards in 2 years.

-Approximately 24% of all students enrolled in programs in the Fall of years from 1970 through 1973 received awards. This figure represents 12% of all VCCS students.

- In addition, at schools with low completion rates there was substantial faculty agreement that students had skill levels that were too low to complete required classroom work.

VCCS response: (pp. 25-26)

- VCCS must conduct more extensive studies regarding completion rates.

- JLARC methodology is inappropriate because of the diverse nature of community college students (e.g. part-time students, working students, irregular students, etc.) and the variation in enrollment from quarter to quarter.

- The VCCS found:

  - of full-time students, 49% re-enroll to begin their second year. Some of these are technically freshmen.

  - 31.5% of full-time students enrolling for the first time in Fall 1971 are estimated to receive awards in five years.

JLARC comments:

- JLARC recognized that attrition cannot be measured in the traditional way due to the nature of the community college student body. Therefore, the analysis is based on several methods of calculating attrition and graduation. Each method provides a different perspective from which to assess the problem and the results all fall within the 25%-35% range, as do the VCCS computations.

Admissions and Counseling

JLARC reported: (pp. 15-22)

- Admissions is a two step process. Admission to courses is available to any person who is at least 28 years of age or has graduated from high school and who shows, through counseling and testing, he or she can benefit from instruction. The second step involves admission to a specific program of instruction. In compliance with legislative intent State Board policy requires that students demonstrate the aptitude and skill necessary to complete instructional programs as a prerequisite for admission.

- The VCCS does not have system-wide qualitative admissions standards or sufficient controls to insure compliance with State Board policy. In effect, admissions to all programs is open.

- Two out of three teaching faculty members in the VCCS feel that students lack the fundamental skills required for community college coursework.

- Retention/graduation rates for VCCS students range from 25% to 35%.

- It is reasonable to infer that completion rates will increase if admission standards appropriate to curricular areas are used.

- Counselors should be given explicit responsibility to insure that standards are met.

VCCS response: (pp. 7-8)

- The VCCS colleges are following admission and counseling policies in accordance with the philosophy of the comprehensive community college.

- Testing is not required by either State Board or legislative intent.

- Testing is not a valid predictor of academic success.

- Testing is not the answer to attrition problems and there is no evidence to support the opinion that it helps students stay in programs, reduces attrition, or assures quality performance.

- The counselor's role is not that of an admissions officer.

JLARC comments:

- The State Board policy regarding admission to instructional programs is not being carried out.

- While testing is not specifically directed by State Board policy, testing is in keeping with these policies and legislative intent in that it is one means of ascertaining interest and aptitude. Although testing should not be used as an absolute predictor of success or failure, research has shown it to be of general predictive value.

- JLARC did not conclude that testing is the answer. On the contrary, testing should be used as a supplement to other counseling procedures, including the use of remedial options.

- JLARC does not agree that counselors should limit themselves solely to helping students identify educational and career goals. They should also assess student ability to attain those goals and offer realistic advice. Although the JLARC Counselor Survey shows the 76% of the responding counselors regard the former as a high priority, almost half feel that assessing student capability is also a priority area. We feel this should be encouraged.

- Although counselors do not make actual admission decision, State Board policy clearly assigns them an active role in this process by basing the decision on the recommendation of the counselor and the approval of the instructional division concerned.

Counseling Workloads

JLARC reported: (pp. 25-30)

- On the basis of a general headcount ratio, counseling services in the VCCS appear to be understaffed. This pattern is particularly acute at the larger colleges located in major urban areas.

VCCS response: (p. 23)

- VCCS concurs in the need for more counselors and will examine student counselor ratios based on headcount enrollment and seek additional funding for implementation.

JLARC comments:

- Requests for additional counseling personnel must be based on a clear understanding of the relationship between potential and actual workloads.

- The greatest need for counselors is in the large urban colleges.

- VCCS should also explore the use of paraprofessionals and student assistants to relieve counselors of routine duties as a means of more effectively utilizing professional talent.

Student Classification by Program

JLARC reported: (pp. 11, 47, 65, A-7 to A-10)

- Accurate student classification by purpose in attending a community college is necessary to effectively plan, staff and budget educational programs.

- VCCS reports list more than half of their students as unclassified--that is, their educational objectives are not known by the VCCS.

- Instutional budgets are based on student faculty ratios of 15:1 for occupational-technical and developmental students, and 20:1 for university-parallel students. Schools must assign unclassified students to one of the budget allowance ratios. JLARC found most colleges assign them to the vocational category which results in the most favorable budget allowance.

- Because of the need to determine students' actual program classification for analysis, JLARC reclassified students using information obtained from student questionnaires. The primary factors used were (1) purpose for attending, (2) field of study, (3) degree expected, and (4) student perception of program enrollment.

VCCS response: (pp. 17-18)

- VCCS acknowledges the need to improve their student classification system--been struggling with the problem for several years.

- JLARC approach to student classification was inadequate.

- Intend to pursue this problem and feel that MIS will help.

JLARC comments:

- JLARC is encouraged that the VCCS recognizes the need for accurate student classification and plans to give priority attention to this problem.

- JLARC did not present their method of classification as one to be used by the VCCS to maintain accurate student classification records. In order to evaluate the effectiveness of the VCCS it was necessary to determine the students purpose in attending. VCCS records were not acceptable since more than 50% of the students were reported as unclassified. JLARC is convinced that student classifications presented in the JLARC report are sound for the purpose intended.

Enrollment and Graduates Reported in Programs That Have Not Been Approved

JLARC reported: (pp. 43, 49, 68-71, 73)

- Council of Higher Education approval is required for all Associate in Arts and Associate in Science degree programs.

- All certificate and diploma programs must be approved by the Department of Community Colleges.

- JLARC found numerous examples of either enrollment or graduates reported in programs that had not received approval from the proper authority.

VCCS response: (p. 24)

- With the exception of two programs, all programs that have had graduates and require council approval have been approved--clerical error accounts for both. They are now in the process of approval.

JLARC comments:

- JLARC's findings clearly indicate that inadequate controls have been exercised by the VCCS. Contrary to the VCCS response, graduates were reported in three programs and enrollment was reported in another 20 programs which the Council of Higher Education has certified were not approved.

Faculty Productivity

JLARC reported: (pp. 140-144)

- System-wide the VCCS fall quarter full-time teaching faculty appears to have a high degree of productivity, but there are variations within and among schools that the present VCCS data system is incapable of monitoring.

VCCS response: (pp. 19-20)

- VCCS faculty productivity which averaged 259 student credit hours per quarter for 1973-74 is somewhat above the average required to meet student-to-faculty ratio budget guidelines -- 255 students credit hours (17 students x 15 credits).

JLARC comments:

- The VCCS faculty productivity reports and their response to the JLARC evaluation are based on system-wide averages.

- Averages obscure individual and program productivity within schools and substantial differences among schools. Such differences impact upon budgeting, planning and assessment of institutional performance and appropriateness of programs.

- JLARC found that faculty productivity at eleven schools was below the VCCS guideline figure. Approximately 14% of the VCCS full-time faculty taught less than a minimum standard of 180 student credit hours.

Long Range Planning

JLARC reported: (pp. 113-116)

- VCCS long range planning is deficient.

- The VCCS master plan developed in 1966 has not been updated; and, today VCCS does not have a long range plan.

VCCS response: (pp. 14-16)

- VCCS catalogs their attempts at planning over the years and concludes that Management by Objectives (MBO) will provide the basis for developing a plan of operation and evaluation of the system.

- MBO will be operational by 1977-78 if fully funded.

JLARC comments:

- MBO is but one tool available to managers in tracking performance against identifiable objectives.

- JLARC's point is that the VCCS first needs a long range plan for the system. Then, the institutions can logically develop goals and objectives consistent with the system design; and, VCCS management can make effective use of MBO and other management tools to manage on a day to day basis.

Management Information System

JLARC reported: (pp. 117-121)

- The VCCS has identified the need for additional management information and is in the process of developing a computerized management information

system (MIS) to be fully implemented by 1979. Progress has been delayed and a satisfactory method of funding has not yet been established.

- Efforts should be made to accelerate MIS implementation.

VCCS response: (pp. 12-13)

- The VCCS agrees with the need to accelerate implementation of MIS and points to need for additional funds and more cooperation from State agencies involved in ADP approvals.

JLARC comments:

- A portion of the cost of MIS should be offset by a reduction in the number of VCCS personnel now performing tasks that will become automated. According to the chancellor, about 25 such positions can be eliminated in the department alone.

- As indicated in the attached letter of March 11, 1975 from the Division of Automated Data Processing to the Department of Community Colleges, delay in implementation rests in part on the lack of adequate planning by the VCCS.

Training For New and Expanding Industries--Special Training Division

JLARC reported: (pp. 97-109)

- The VCCS has not exercised appropriate policy supervision of the Special Training Division activities.

- Definitive program objectives have not been established and operating guidelines have not received proper approval.

- Lack of supervision has resulted in unintended training for attrition, competition for reimbursable training, and erroneous reporting of information.

- Special Training Division's recordkeeping system must be improved to accurately reflect information that can be used to assess its effectiveness.

- Regional field offices should be eliminated or accomodated on an "as needed" basis at one of the colleges.

- A fiscal audit of division expenditures should be performed.

VCCS response: (pp. 32-33)

- The Special Training Division of the VCCS has operated with the approval of the Legislature and the State Board for Community Colleges within the guidelines provided:

  - Guidelines were adopted by the State Board for Technical Education, November 30, 1965.

- The division was included in Policies, Procedures, and Regulations approved by the State Board.

•The guidelines are under study.

JLARC comments:

•Minutes of the November 30, 1965 State Board meeting show that a draft of the guidelines was presented to the Board and changes were discussed. The subcommittee was directed to hold further discussions with persons in the Division of Industrial Development regarding the amended draft. The meeting adjourned without the approval of the guidelines.

•The State Board Policies, Procedures, and Regulations for the VCCS specify special trainin programs as one of several programs that can be offered at each community college.

•JLARC stands on the finding that evidence has not been found to indicate that guidelines for special training activities have been approved by proper authority.

VCCS response: (pp. 32-38)

•VCCS agrees that additional records are required to provide for trainee follow-up and more detailed costing of the programs and this area is under study.

JLARC comments:

•JLARC concurs. In fact, the division's entire recordkeeping system must be overhauled.

VCCS response: (p. vii)

•The Special Training Division has operated within flexible guidelines developed for the highly competitive industrial needs.

•No industry or business was given special or favored treatment.

JLARC comments:

•Special training programs should be restricted to training for new or expanding industries.

•JLARC's findings clearly establish that training has been provided for replacement due to attrition and to upgrade employees. In fact, the largest single training program--General Electric at Portsmouth--is predominately replacement oriented.

VCCS response: (p. 37)

•Supervisory training programs are conducted by the Special Training Division on a reimburseable basis.

- The Chancellor has issued a memorandum to the college presidents which specified that all supervisory training programs involving special training personnel that were requested by industry would be coordinated through the office of the Director of Continuing Education for each respective college.

JLARC comment:

- JLARC found that the chancellor's memorandum has not been effective in shifting emphasis on supervisory training from the Special Training Division to the colleges.

- Management development and supervisory training should be restricted to the community colleges except in unusual or specific cases authorized by the State Board.

(ATTACHMENT TO JLARC COMMENTS ON VCCS ANALYSIS)

COMMONWEALTH OF VIRGINIA
GOVERNOR'S OFFICE
OFFICE OF ADMINISTRATION
DIVISION OF AUTOMATED DATA PROCESSING
EIGHTH STREET OFFICE BUILDING
RICHMOND, VIRGINIA 23219

HOWARD BRYANT
DIRECTOR

TELEPHONE 770-6041

March 11, 1975

Dr. S. A. Burnett, Vice-Chancellor
Department of Community Colleges
911 East Broad Street
Richmond, Virginia 23212

Dear Dr. Burnett:

This is in reply to your request for approval to contract with two firms for services in the development of the Community College MIS. The request and related materials submitted with the request and/or on file have been reviewed. Following is a summary of the status of the MIS Project as it relates to the current request as understood by the Division of Automated Data Processing, and a statement of the course that would seem most appropriate to follow.

Summary:

The request is for expenditure of an additional $564,720 for outside consulting and programming assistance on a Time and Materials basis from the period of 1/1/75 through 6/30/76. While this amount may be within your current working budget, it appears to be over and above the budget projected in the biennial ADP budget request (Appendix O).

The original definition of and request for contract services was for the Budget and Accounting Subsystems with an estimated expenditure of about $140,000 through July of 1974. It is understood that about $200,000 has been spent to date, but the Budget Subsystem has not been done and only half of the amount spent was solely on the Accounting Subsystem. The bulk of the remaining funds were spent on general routines which are also used by the Accounting Subsystem. The original schedules indicated that the Accounting Subsystem was to be installed by the Fall of 1974. In the July 1974 version of the Community College Plan, the schedule for completion of Accounting was rescheduled to 1/1/75 and Budgeting to 5/1/76. Accounting is now anticipated to be installed by Fall, 1975. Budgeting was determined to be of lower priority than others and moved down the line.

About $75,000 of the new request is what is estimated to complete Accounting and the balance is for work on Admission, Registration, Position Classified, Faculty, and Payroll Subsystems.

The reason for the seeming cost and schedule overruns and scope of work underestimates does not appear to be because of poor performance by the contractors; but, rather, because the work is not well enough defined when budgets, schedules and contracts are committed.

Discussion:

Although the McManis MIS System design was adopted in principle, it is not, in fact, the specific technical basis for the work which is currently being done. The latest (July 1974) version of the Community College System ADP Plan is, of course, not a system design either; so that subsystem design must be done as part of subsystem work which has to be budgeted and scheduled prior to definition. The original "Master Plan" did contain budgetary estimates for developing an MIS, but none of the subsequent plans have contained budgetary projections for the entire system.

The Community Colleges feels that it is to their advantage to gradually progress in that they have more flexibility than if the whole "system" had to be fully designed prior to execution of any parts of it. While that statement is true, it leaves the whole MIS system development open ended in completion time, capability, and cost (for the capability in a given time). Without subsystem level objectives, requirements, and contraints having been documented prior to beginning work, the potential danger is that the end result may not meet the needs of the people whom it is supposed to service, but rather, will end up being what the designers and programmers think the users "ought to" need or be doing, or what can be produced for a budgeted amount and/or within a fixed deadline, etc. Without good overall definition and documentation, it is difficult to consider the alternatives to Time and Materials contracting, or alternative contractors for getting the work or parts of the work accomplished.

Approach:

Based on the preceding interpretation of the status to the MIS Project, it is believed that the most appropriate course to be followed would be to,

1) Complete the Accounting Task as currently planned,

2) Bring the MIS architecture, design, and plans up-to-date to reflect what is to be produced, what requirements the system(s) will satisfy, and what are the current schedules and cost estimates,

3) Undertake contracts by phase of development so that there is a definitive statement of work and specified products to be delivered by contract personnel at each major step, (in contrast to contracting the entire, unspecified work now.)

This approach will allow better overall management evaluation and control of contractor performance. If adequate specifications are produced at each phase, then the option exists to compete and possibly reduce costs for the development of the systems.[1]

[1]. A recent analysis of contract costs by the Division of ADP showed that contract manpower costs from 30 to 50 percent more than internal costs and that there are substantial cost differences between contractors.

Consequently, it is requested that your request for approval be restructured along these lines.

Sincerely,

Carl W. Bell
ADP Deputy Director for Higher Education

cc: Dr. Dana B. Hamel
Community Colleges

Dr. J. Howard Bryant
Director, ADP

CWB/df

COMMONWEALTH of VIRGINIA

COUNCIL OF HIGHER EDUCATION

10th Floor, 911 East Broad Street, Richmond, Virginia 23219

DANIEL E. MARVIN, JR.
DIRECTOR

(804) 770-2143

April 15, 1975

Mr. Ray D. Pethtel, Director
Joint Legislative Audit and Review Commission
823 East Main Street - Suite 200
Richmond, Virginia 23219

Dear Ray:

I have reviewed the Joint Legislative Audit and Review Commission's program evaluation of the Virginia Community College System. Although I have not been able to study thoroughly all of the areas noted in the evaluation, I have identified those recommendations pertaining directly to the Council of Higher Education. Rather than comment on the over-all evaluation, I will limit these remarks to the Council-related sections. The entire evaluation will be distributed to the members of the Council of Higher Education when the printed copies become available.

There appear to be four matters cited in the report for which specific action by the Council of Higher Education is recommended. These are articulation, enrollment projections, space planning guidelines, and program approval. All of these areas are important to the Council. Several of these are addressed at the policy level in The Virginia Plan for Higher Education, others in legislation passed by the 1974 General Assembly to increase the responsibilities of the Council, and all are on-going concerns of the staff.

On the matter of articulation, the Council has called for articulation agreements between Virginia's state-supported, four-year colleges and universities and the Virginia Community College System, and has employed a person, in conjunction with the Community College System, to work toward this end. The Council has been concerned about satisfactory transfer arrangements for some time. As early as 1967, an advisory committee on

articulation was established by the Council. Basic policies were developed which, I believe, assisted the institutions during the early years of the community college system (see attachment).

It is now time to re-examine those early policies and establish more specific guidelines for articulation. The problem is heightened considerably by the number of AAS degree holders who transfer to senior institutions. The Commission's specific recommendations, such as that for a transfer guide on courses which are fully transferable to four-year colleges, may be helpful in giving additional impetus to our efforts.

I must point out that the Council of Higher Education is restricted by law from establishing admissions criteria for the individual institutions. Likewise, the community college system cannot force senior institutions to accept any particular credits. Thus, any new transfer agreements will be only as binding as the individual institutions choose to make them. I do, however, wish to assure the Commission that the Council will take a leadership role in this important area.

Enrollment projections will continue to be a Council and General Assembly concern. The Council staff has in the past placed its greatest emphasis on projecting enrollment for the State as a whole. For the four-year colleges, we have achieved a satisfactory level of accuracy, and for 1970-71, the community college projections were within a satisfactory range. For the 1972-74 biennium, however, the changing mix of full-time/part-time students, lack of certain facilities, the phase-down in Vietnam, economic conditions, and other factors difficult to project, caused our projections to be wide of the mark. I believe the 1974-75 FTE student enrollment figures for the Virginia Community College System will again be in the satisfactory range.

With the General Assembly's formal assignment of responsibility for enrollment projections to the Council of Higher Education in 1974, I can assure you this will receive one of the highest staff priorities. We at the Council recognize the importance of accurate projections and the necessity for making them on an institution-by-institution basis. During the coming years, this will be an extremely difficult process. The rapidly changing mix

of students between full- and part-time and the artificially high enrollments caused by increasing unemployment further cloud the crystal ball. Still, I believe the facts are incontrovertible that enrollments will soon level off and actually decline during the middle '80s. Thus, the need for careful planning, especially for capital outlay is critical.

The student classification concerns raised by the Commission's evaluation are not directly a part of enrollment projections but they significantly influence financial projections and, therefore, must be looked at carefully. We share the Commission's concern for the large number of community college students in the unclassified category. We will attempt to work with the community colleges on this matter as we approach the short-term enrollment projections for the 1976-78 biennium.

The Commission's suggestions concerning space planning guidelines will be reviewed by the facilities section of our staff. The day-evening space requirements for the community colleges differ from those for many of the senior colleges, particularly those in the rural areas. The staff does day and evening space utilization studies and along with the Division of Engineering and Buildings reviews requests of the Department of Community Colleges for leasing of space. While community colleges have large evening programs, if we build--as have utilities--for peak loads, we will be faced with unjustifiably low space utilization for other hours of operation.

I believe that Virginia has one of the best capital outlay planning procedures existent in the country. The early work by the Capital Outlay Coordinating Commission has been implemented and supplemented by the work of the Council of Higher Education. The space utilization guidelines to be used for the 1976-78 biennium are consistent with national standards in every way. Although the guidelines were not in effect during the early planning and construction phases of the community college system, I believe they now will lead to better space planning and utilization.

The matter of reviewing and approving, or disapproving, degree program requests and discontinuing non-productive programs is one in which the Council has considerable experience. In 1970, the Council began to study degree productivity in graduate degree

programs. At that time, more than forty programs were identified as having zero productivity for more than a five-year period. It was not until the 1974 legislation that the Council was given the authority to terminate non-productive programs.

After careful work with the institutions in preparation for this authority, the Council adopted productivity standards. In 1974, the Council staff re-examined graduate degree productivity. As a result of that review, a number of programs were terminated while others were combined for greater efficiency. The productivity standards include criteria for the community colleges. The Council staff will soon begin to undertake the appropriate review with the cooperation of the Department of Community Colleges.

I believe the current program approval process is a good one and is fully understood by all institutions. Any programs operating in the community college system without the approval of the State Board for Community Colleges or the Council of Higher Education may have resulted from an accident of reporting on the part of the community colleges, the actions of overzealous faculty members who combined courses to establish new programs without the proper institutional and departmental approval, or from a difference in definition of programs between the Joint Legislative Audit and Review Commission and the Council of Higher Education. In any event, the information contained in the evaluation will be helpful both to the community colleges and the Council in this important area.

My previous comments have all addressed recommendations in the evaluation dealing specifically with Council of Higher Education responsibilities. I believe I must comment on the process of evaluation used by the Joint Legislative Audit and Review Commission and the role of the Council of Higher Education. It seems to me that the Council, the agency statutorily responsible for coordinating higher education, and the Joint Legislative Audit and Review Commission, the commission statutorily responsible for legislative oversight, should come to an early agreement about study procedures, study format, and definition of terms. Had this been done prior to your most recent evaluation, I think several problems of interpretation could have been avoided. These include class size data, faculty workload,

and non-productive academic programs. The entire higher education community and all of Virginia's citizens would be better served if this procedure were followed.

As noted earlier, I will share the Commission's evaluation with the Council members and keep you informed of Council and staff reactions relating to the evaluation.

Sincerely,

Dan

Daniel E. Marvin, Jr.
Director

DEMJr/dtb

Enclosure

December 11, 1969
February 25, 1971

POLICIES AND PROCEDURES OF THE STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA

Policies and Procedures Concerning

Guidelines for Promoting Articulation Between Two-Year Colleges and Four-Year Colleges and Universities in Virginia

Consistent with its responsibility to develop and maintain a coordinated system of higher education in Virginia, the State Council of Higher Education at its April 3, 1967 meeting approved guidelines designed to promote the smooth transfer of students completing appropriate college transfer programs in two-year colleges to the four-year colleges and universities in Virginia. The Articulation Advisory Committee has conducted continuous follow-up since 1967 and the State Council has updated these guidelines at its December 11, 1969 meeting and again at its June 8, 1972 meeting. The updated set of Guidelines follows:

I. In order to assist students in evaluating their general progress and the appropriateness of their educational objectives, four-year institutions and two-year colleges should work jointly and establish systematic procedures to provide counselors and advisors with current and continuing information about comparable courses, curriculum changes, requirements for admission, student characteristics, student services, and performance of transfers.

II. Two-year college students should be encouraged to choose as early as possible the four-year institution and program into which they expect to transfer in order to plan programs which may include all lower division requirements of the four-year institution. Transfer students should be given the option of satisfying graduation requirements which were in effect at four-year institutions at the time they enrolled as freshmen, subject to conditions or qualifications which apply to native students.

III. Performance in the college transfer program offered by two-year college is the best single predictor of success in four-year institutions and, therefore, should count heavily in the evaluation of transfer applicants.

IV. Admissions standards of four-year institutions should be stated clearly to assist two-year college students in planning for transfer.

V. Transfer applicants from institutions which have institutional approval from the State Council of Higher Education should be evaluated on the same basis as applicants from regionally accredited institutions.

VI. The evaluation of transfer courses by four-year institutions should serve to inform the individual student at the time of admission how far he has advanced toward his degree objective and what residence and subject requirements must still be met.

VII. The satisfactory completion of an appropriate two-year associate degree transfer program should normally assure upper division standing at the time of transfer although this does not unconditionally guarantee transfer of all credits.

VIII. Two-year college students are encouraged to complete their Associate in Arts or Associate in Sciences Degree before transferring to a senior college except in specialized curricula where it would be to the students' advantage to transfer earlier.

IX. The Two-Year/Four-Year Articulation Advisory Committee composed of representatives from public and private two-year and four-year institutions should meet at least semi-annually to consider appropriate problems, suggest needed studies, and recommend to the State Council of Higher Education additional guidelines for effective articulation.

June 8, 1972

COMMONWEALTH OF VIRGINIA
OFFICE OF THE GOVERNOR

JOHN R. McCUTCHEON
DIRECTOR
DIVISION OF THE BUDGET

445 NINTH STREET OFFICE BUILDING

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April 1, 1975

Honorable Ray D. Pethtel, Director
Joint Legislative Audit and Review Commission
823 East Main Street - Suite 200
Richmond, Virginia 23219

Dear Mr. Pethtel:

JLARC Report
"Virginia Community College System"

We have reviewed the final report, which was delivered to us on March 20, 1975, and want to express our appreciation for the opportunity to comment. (We have made no effort to analyze specific data.)

The report in its final form is not fully responsive to some of the items of major concern mentioned in our March 4 letter to you. Also, in the interest of perspective, we believe some brief comment is in order with reference to certain other points not mentioned in our March 4 letter. Accordingly, our comments on the final report are as follows:

1. Delay in processing expenditures for public service courses, Pages 134 et seq. of the report.

This specific problem has not previously been reported to us, and we expect to obtain further information about it from the Department of Community Colleges. It is our suggestion that any complaint of this nature be referred to the Department, the Division of the Budget, and any other office concerned for corrective action, rather than to amend the Code to provide an exception for these funds. Our reasons are:

(a) Similar courses are offered in some of the senior institutions which could reasonably expect to have any exception extended to them. The rationale could be extended indefinitely. If there are delay problems in any State agency, they need to be addressed as such and a solution sought from that standpoint.

(b) We think it would be undesirable to develop a pattern of handling State funds through local bank accounts, which Section 2-1.180, Code of Virginia, was intended to prevent. We believe the principle that funds collected by State agencies should be handled through the State treasury is a sound one. We do not believe the comparison with endowment funds is valid.

(c) The Budget Bill, the Budget Document, the Appropriation Act, and related statistical material cover only funds which are handled through the State treasury. If public service funds are excluded from the requirements of Section 2-1.180, the cost of the program will not be reflected in these documents. This would be particularly undesirable if general fund support for public service activities, for which there is pressure, is provided, as the budget materials would then reflect only the general fund cost of the program.

2. Appropriation of funds for the Management Information System, Page 172 of the report.

There are several options, with pros and cons for each. Generally, we favor - because of the size and growth trend - an identification of total EDP cost; and, an identification of costs to users.

Electronic data processing (except when an instruction field) is not itself a program, but a tool for the conduct of programs. In some agencies, we have endeavoured to identify, separately, the amounts expended for EDP, but with the intent to arrive at a means of later having the costs distributed to the programs served. Where a separate identification by budget activity is not made, sums for EDP are identified and recommended amounts are related to these sums, as a part of the budget review (Appendix O).

At present, computer center working capital funds exist at the University of Virginia, the College of William and Mary, and Virginia Polytechnic Institute and State University, which are higher education regional computer centers. Handling of computer charges in this way is a necessity, since each of these centers serves a number of other institutions and agencies. The volume of transactions is such that it is not possible to balance and close accounts with all users by the end of a biennium, resulting in overlapping of bienniums between the time a cost is incurred by the working capital fund and the reimbursement of that cost by the using agency.

The JLARC proposal appears to regard the MIS and the EDP capabilities of the total community college system as one and the same. Our impression is that the MIS is one part of a total data processing operation. At least some of the MIS cost is for individual community college administration and instruction and thus can be properly chargeable to those individual colleges. (Systems management would require an identification of costs for the various applications, in any event.) These aspects should be considered, as well as the mode of operation of the three regional computer centers, in connection with the suggested line-item appropriation for community college system MIS.

3. A point of clarification is needed in connection with the enrollment projections. In the preparation of the Executive Budget recommendations, only enrollment projections which have been approved by the State Council of Higher Education are used. Any questions which this office has pertaining to these projections are directed to the Council rather than the institutions of higher education. This has been standard budget policy since the 1970-72 biennium.

4. Referring to the material on Page S-18 concerning the appropriations per FTE student, such amounts are the result of previous computations. In other words, we do not budget a predetermined amount per FTE student. Accordingly, if more accurate enrollment projections had been used, application of the various budget guidelines to those projections would not necessarily result in the dollar amount of savings which are specified on Page S-18. The reason is that there are certain fixed costs inherent in any enrollment. Also, a revised projection entailing varied revisions of the numbers of students in each level of enrollment would not result in a proportionate change in the number of faculty positions.

In accordance with your recent call, we understand this letter is to be included in the final report as printed.

Sincerely yours,

John R. McCutcheon

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